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ABSTRACT

The German-American Conference on Educational Exchange was held in Germany from June 12-23, 1972. Participants included admissions officers, registrars, foreign student advisors, English and German-as-a-second language specialists, study-abroad advisors, and governmental agency personnel concerned with the problems of international educational exchange. Conference papers and reports covered a history of the Federal Republic of Germany, the educational system in the Federal Republic and the United States; and educational reform in the Federal Republic of Germany. A glossary of German academic terms, notes, a 32-item bibliography, and appendices are included. (MJM)

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The German-American Conference on Educational Exchange

June 1972

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Conference Report

by

Philip P. Byers

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GERMAN-AMERICAN CONFERENCE

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EDUCATIONAL EXCHANGE

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American Association of Collegiate Registrars
and Admissions Officers

German Academic Exchange Service

and

National Association for Foreign Student Affairs

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DEDICATION

This report is dedicated to the memory of Dean George P. Springer, whose role in the Conference was an important factor in its success, and whose tragically sudden death, July 29, 1972, came shortly after he returned to this country following a brief post-Conference vacation in Europe.

For literally thousands of us who have known him and called him friend, the world is now a poorer place. Few individuals anywhere in academic life were better known and loved across more national boundaries and on more of the world's campuses. Himself a former foreign student, he smoothed the paths of so many strangers to our land that he was becoming something of an institution.

Born of Jewish parents in Brno, Czechoslovakia in 1919, he completed secondary school in Prague but fled the impending German occupation of his homeland to study briefly in France, England and New York. He then entered Harvard in the fall of 1939, and within four years had earned both the A.B. (Musicology, *cum laude*) and the A.M.T. (Secondary Education).

After a year as a secondary school teacher, he obtained his U.S. citizenship and joined the Army in 1944. His wartime service took him to Europe where he learned on a visit to Czechoslovakia after VE-Day that his immediate family had been almost totally annihilated. Characteristically, he made good friends among the Germans with whom he worked in the Allied Military Government and whom he visited with pleasure in later years. He stayed on for two years of Civil Service employment after his discharge as a Sergeant, but returned to Harvard in 1948, where he took the M.A. (1950) and the Ph.D. (1954) in linguistics, primarily Slavic. Between these two degrees, he also served a two-year assignment as a U.S. Army lieutenant in Germany during the Korean conflict.

His rise through academic and administrative ranks was deservedly rapid. A year as Research Fellow at Georgetown University (1953-54) was followed by three years as Research Associate at the Human Relations Area Files in New Haven. From 1957-1961 he was Director of Admissions, Yale University Graduate School, and Director of the summer Yale Foreign Student Institute, which he founded. Promoted to Assistant Graduate Dean in 1961, he took on additional loads as Lecturer in the Slavic Department, Director of Summer Activities, and Fellow of Ezra Stiles College.

In 1965 he accepted the Deanship of the Graduate School of the University of New Mexico, where he also became Professor of Anthropology, and in 1968 he was appointed to the additional post of Vice President for Research. He somehow found time to maintain an active scholarly life throughout his administrative career, publishing monographs, articles and reviews on Slavic linguistics, co-editing a recent book on graduate education, and editing reports on international education. One of the last acts of his life was to complete a manuscript on Balinese music during a sabbatical semester in Indonesia.

The extent of his other activities as professional musician, Fulbright lecturer, consultant and world traveler is little short of amazing, but cannot be related here. Participants in the German-American Workshop on Educational Exchange owe him a special debt for his service as Chairman on opening day and his many other contributions during our week in Bonn. There, as throughout his life, he was intensely alive, good-humored, vitally interested in people and in the crucial role of education in developing human understanding. He will be sorely missed. A Yiddish term that he once taught me comes closest to doing him justice: More than anyone else I ever met, George was a real "Mensh."

James L. Colwell

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INTRODUCTION

The German-American Conference on Educational Exchange[1] was held in Germany from June 12-23, 1972. Participants included admissions officers, registrars, foreign student advisors, English and German-as-a-second language specialists, study abroad advisors, and governmental agency personnel concerned with the problems of international educational exchange. Approximately 35 were Germans and 25 were Americans. (See Appendix A for a complete list of participants.) The meeting was jointly sponsored and planned by the Deutscher Akademischer Austauschdienst (German Academic Exchange Service, normally abbreviated the DAAD), the American Association of Collegiate Registrars and Admissions Officers, and the National Association for Foreign Student Affairs (U.S.). The responsible German official was Gerhard Mueller of the DAAD. James L. Colwell, Dean of the College of Arts and Education, University of Texas of the Permian Basin, directed the American group. Financial support for the Conference was provided by the DAAD, the major contributor, the U.S. Department of State's Bureau of Educational and Cultural Affairs, the Ford Foundation, and the College Entrance Examination Board.

The Conference began on Monday, June 12 at Bonn-Bad Godesberg (Arera Hotel) with an opening address by Dr. Hubertus Scheibe, General Secretary of the Deutscher Akademischer Austauschdienst. Dr. Scheibe's comments set forth the objectives of the Conference, namely, to consider, in a practical way,

1) the criteria of admission to German and U.S. institutions of post-secondary education

2) the "difficult" problem of equivalences between German and U.S. education

3) the language requirements for admission to German and U.S. post-secondary educational institutions, and

4) other topics related to the exchange of university students between Germany and the United States.

The Conference did not "aim at any resolutions or conclusions." However, as Dr. Scheibe pointed out, "I believe the information and knowledge gained during this seminar here in Bonn will help us to improve the academic relations between the United States and Germany; that is our aim and purpose."

Dr. Scheibe's address was followed by five days of papers, discussions in large and small groups, and cultural and social events in and around Bonn. At the conclusion of the first week, the American participants and the DAAD escorts left Bonn-Bad Godesberg and travelled to Berlin, Munich and Bochum. There they visited the Free University of Berlin, the Technical University of Berlin, the University of Munich, the Technical

University of Munich, the Goethe Institute (Munich), the Max-Planck Institute for Physics and Astrophysics (Munich), and the Ruhr University at Bochum. The purpose of the trip was, in the words of Dr. Scheibe, "to (provide an) opportunity to see our universities and (to) show you how we are trying to solve our common problems."

At the conclusion of the formal program, each official American participant was provided with an additional allowance to cover the cost of five days of travel within Germany. The latter provided an excellent opportunity to further investigate--in a less structured way--German society and its educational institutions.

A formal report of Conference proceedings was not envisioned by the German sponsors of the seminar. On the other hand, those responsible for the American participation planned and budgeted for a report which would enable U.S. university and college personnel to better understand present day German education. Bearing these priorities in mind, the Rapporteur has developed a report which stresses heavily those aspects of the Conference which will be primarily useful to American academicians concerned with admitting and advising German students planning to study in the United States.

Because terminology is so vital to a correct understanding of any educational system, especially when new concepts and institutions are evolving, as they are in Germany, the Rapporteur has appended an extensive glossary to this "report". Frequent reference to the glossary will provide the reader with a more accurate and definitive understanding of present day German education.

In conclusion, I must add that there is nothing official about the information contained in this report. German and American participants at the conference did not represent positions or arrive at conclusions which could be interpreted as official or binding upon any institution, agency, organization or government. Understanding, elucidation, and exploration of the German and the American educational systems as they related to educational exchange, were the objectives of the Conference. To reiterate the June 12th introductory remarks of Dr. Scheibe, "We are not aiming at any resolutions or conclusions at this seminar."

I wish to express my gratitude to the following persons who have contributed significantly to the finished report: Dr. James L. Colwell, who read the manuscript and made numerous recommendations for its improvement; Dr. Gerhard H. Mundinger, who translated several German papers and also critically read certain portions of the manuscript; Dr. Cecilia Baumann of the Midwest office of the Institute of International Education, who proofread and contributed significantly to the translation of German terms into English; Ingeborg Graefin von Pfeil of the German Consulate in Chicago who assisted with the translation of German portions of several Conference tapes; and, to my wife, Irene, who attended the Conference, wrote the section on "The Federal Republic of Germany," aided in the organization of Conference notes, and prepared the bibliography.

EDUCATION
IN THE
FEDERAL REPUBLIC OF GERMANY

SECTION I

THE FEDERAL REPUBLIC OF GERMANY

Before launching into a detailed description of the West German educational system, and the discussions which took place at the German-American Conference on Educational Exchange, it is appropriate to briefly present materials dealing with German geography, society, history, government and the relationship of government to education in the Federal Republic. The section which follows treats of these matters.

1. THE LAND AND THE PEOPLE

The Federal Republic of Germany comprises an area of 96,000 square miles stretching in a long, narrow spread of 562 miles from north to south and 250 miles from east to west. Five main geographical features include the North German Plain, the central mountain ranges, the western and southern hill country and the Bavarian Alps. The highest mountain is the Zugspitze(9,718 feet) in the Bavarian Alps. The longest river, the Rhine, which has its source in Switzerland, flows through Germany for 542 miles to the North Sea in Holland. About 449 miles of the Rhine are navigable. Other principal rivers which wend their way toward the North Sea, are the Ems, Weser, and Elbe, while the Danube flows eastward to the Black Sea. The large natural waterways of Germany are linked together with numerous canals. Lake Constance is the largest lake. It borders Germany, Austria and Switzerland with a total of 207.9 square miles of which 117.8 are in Germany.

Located in the middle of Europe, Germany faces France, Luxembourg, Belgium and the Netherlands to the west. To the north are Denmark and the North Sea; to the east, the German Democratic Republic and Czechoslovakia. Austria and Switzerland are neighbors to the south.

The F.R.G. is situated in the temperate zone between the 47th and 55th parallels north. Weather changes are frequent, west winds predominate, rainfall is abundant and only rarely are there extremes of temperature. The heaviest rainfall occurs in the summer when it ranges from twenty inches in the northern lowlands to seventy-nine inches or more in the German Alps. The Upper Rhine valley has the highest summer temperatures, but, generally, summers are warm, autumns are mostly mild, sunny and dry, and sharp cold and heavy snows of winter are found only at high altitudes. Snow falls from December to March with longer periods of snowfalls in the highest areas of the Alps and the Black Forest.

Hamburg in the north at the mouth of the Elbe River, is the main harbor. The Ruhr and the Rhine regions are the main industrial areas and the most thickly populated. A shift in population has occurred in the F.R.G. In 1950, 57 percent of the entire population lived in the north German Länder (states) but today the figure is only 48 percent. At one time the heaviest concentration of population was in the area between Düsseldorf and Brunswick, but heavily populated areas are now to be found around Cologne, Stuttgart, and Munich. The Ruhr area alone has eleven million.

Of sixty-one million acres of land not in residential use, 56 percent is used for farming, 29 percent is woods and forests, 4.11 percent is given to industrial and commercial usage, 4.4 percent is roads and railroads, and the remainder consists of lakes, rivers, swamps, marshes, parks, sport facilities, airports, and military training areas, with about 2.8 percent wasteland.

The 1970 population statistics cite approximately sixty-two million people with a density of 635 per square mile. The largest cities, with population over one million are West Berlin (2.1 million), Hamburg (1.8 million) and Munich (1.4 million). Recent figures show that 32.6 percent of the people live in cities of over 100,000. However, urban population percentage is steadily increasing, affected largely by immigrants. This is especially true of Munich where the yearly increase in population has been 1.3 percent.

In 1970 there were 1,089 women for every 1,000 men. Of the male population 53 percent were married. The percentage of married women was 47 percent. The life expectancy for men was 67.5 years and for women 73.5.

Despite the fact that the F.R.G. is one of the most densely populated countries in Europe, the country does not have enough workers to produce and manufacture what it needs. Consequently, there is a great demand for foreign workers, a group which already numbers over two million with most of the immigrants streaming in from Greece, Italy, Spain, Turkey and Yugoslavia. Several factors account for the shortage within the ranks of the working population. Over the last thirty years the number of births over deaths has fallen from 8.4 per thousand to 2.6. The death rate is low, 12.2 per thousand. More than one tenth of the men and one fifth of the women have reached retirement age, ceasing to be producers but continuing to be consumers. In about ten years time the percentage of those between 15-65 (working age) has fallen from 69 percent to 62 percent.

An influx of thirteen million expellees, refugees, and emigrants partly explains the 27 percent growth in population in the past twenty-five years. Fully absorbed into the economy and the commercial life of the F.R.G., these newcomers have brought to the land, in addition to their talents, a variety of customs and traditions.

The F.R.G. is principally an industrial country even though more than half the acreage is given over to agriculture. The total number of employed is 26,343,000. Industry accounts for nearly half the available jobs. Of this working population, 48.7 percent are employed in industry, 17.7 percent in trade and transport, and only 9 percent in agriculture. Civil and public servants account for 24 percent. This preponderance of the industrial reflects in the universities where it is to be noted that 68 percent of German students study technology, science, architecture and engineering. Only 21 percent study arts, and 9 percent pursue medicine.

Bonn is the capital of the Federal Republic. German is the official language. The major religions are Protestant, 49 percent, and Roman Catholic 44.6 percent. The northern and central parts of Germany and West Berlin are mostly Protestant, while western and southern Germany are largely Catholic.

II. A BRIEF HISTORY OF THE FEDERAL REPUBLIC

The "Holy Roman Empire of the German Nation", the first German Reich, began in the tenth century and lasted until 1806. Following the Reformation (16th century) and the Thirty Years' War (17th century) Germany became a loose confederation of 300 sovereign states under the Kaiser. After the Franco-Prussian War of 1870-71, and under the leadership of Otto von Bismarck, the second German Reich was founded--a federal state headed by a monarchy. With the Kaiser's abdication in 1918, the Weimar Republic came into being as the first German state under a democratic parliamentary system of government. In the wake of a serious economic depression and the failure of the Weimar Republic, Adolf Hitler became Chancellor, nullified the Constitution, and proclaimed Germany as the Third Reich, an entity that collapsed in 1945 with Germany's defeat in World War II. Administration of Germany was then in the hands of the United Kingdom of Great Britain, the United States, the Union of Soviet Socialist Republics and the French Republic. The land and the city of Berlin were divided into four zones of occupation.

May 23, 1949 is celebrated as the date of the founding of the Federal Republic of Germany.

The basic rights of every German citizen are guaranteed and protected in the "Basic Law," the Federal Constitution. In addition, these same rights are guarded in the constitutions of the eleven Länder. The federation of eleven states, including the city state of West Berlin are Baden-Württemberg, Bavaria, Bremen, Hamburg, Hesse, Lower Saxony, North Rhine-Westphalia, Rhineland-Palatinate, Saarland and Schleswig-Holstein. Powers are divided between the Federal Government and the Länder with the Länder taking on those powers not specifically delegated by the Basic Law to the Federal Government. Education, police, and cultural affairs are generally in the hands of the state governments. Bavaria is the largest of the states in area, but North Rhine-Westphalia has the largest population. West Berlin was granted Land status, but the 1948 occupation agreement makes it inoperative. West Berlin sends non-voting observers to the Bundestag.

The chief-of-state of the F.R.G. is the Federal President, elected by the Bundestag and delegates from the state legislatures. Parliament consists of the Bundestag, the lower chamber which represents the people and the upper house, the Bundesrat, which represents the Länder. The Bundestag also elects the Chancellor who is the administrative head of the Federal Government.

III. ECONOMY AND POLICY

As the fourth largest industrial nation (the U.S.A., the U.S.S.R. and Japan are larger), the Federal Republic of Germany has held second place behind the United States for years in the volume of foreign trade. Of the total employed population, nine million work in industry. Handicrafts form the second largest group. The F.R.G. is not an agricultural country and the number of persons connected with it, as well as the number of farms, has been steadily decreasing.

The major imports are farm, forestry, and food products, textiles clothing, mineral oil and mineral oil products, machinery, iron and ironware, and chemical products. Major exports include machinery, road vehicles, chemical products, iron and ironwear and electro-technical equipment.

While permitting the free play of economic forces, the Federal Government exercises influence on the economy within a framework designed to guarantee social norms and the broader distribution of capital and income-sharing. The Government promotes free competition but prevents cartels or ruinous competition.

Germany is a member of the Organization for European Economic Cooperation, the Council of Europe, the European Coal and Steel Community, and the European Economic Union and Euratom. It is also a member of NATO. While not a full member of the United Nations, it is represented in most of its bodies and agencies.

IV. EDUCATION AND GOVERNMENT

Education falls within the province of the Länder (states) and they are sovereign in these matters, although the Federal Government provides subsidizing funds when needed. While this concentration of educational administration in the state bureaucracy has its disadvantages, it also has advantages. For example, teachers with equal qualifications are paid the same salary whether they teach in the city, the suburb or the country. A disadvantage is the relative lack of local responsibility which tends to reduce variety and innovation.

It should be emphasized that while each state (Land) is responsible for its own educational system--and the states do tend to go their own way in many matters relating to education--there is a coordinating body which works towards a uniformity of educational practice throughout the Federal Republic, namely, the "Permanent Conference of the Ministers of Culture" or KMK (Kultusministerkonferenz). However, for resolutions to be taken up by the KMK, unanimity is required; then each state parliament must act on the resolutions before they become effective.

A federal constitutional change in May, 1969, brought the Federal Government more prominently into the educational planning picture. Now the Federal Government is authorized to participate in educational planning jointly with the Länder (states). Out of this authorization the Bund-Länder-Kommission für Bildungsplanung (Federal-State Commission for Educational Planning) was born. This body is composed of eleven Länder representatives and seven federal (Bund) representatives; however, the Federal Government representatives have an equal number of votes (11). Decisions effecting education can be reached on the basis of a majority vote, a significant step forward.

Some important aspects of German education are:

1) The great majority of teachers are civil servants and receive the same pay, no matter where they teach, if their qualifications are equal;

2) Cities and communities help pay for physical facilities, but the state bridges the gap between rich and poor communities by providing subsidies;

3) The state also provides financial assistance to educational institutions at the tertiary level; this support tends to assure quality throughout the system;

4) There are no private universities in the F.R.G.; however, there are private schools, which also receive state subsidies and state supervision;

5) Compulsory schooling in the Länder (states) of the Federal Republic totals twelve years, of which nine are full-time;

6) All public schools and most universities charge no fees.

As a result of social, economic and technological change, German education is undergoing tremendous change. These matters will be covered in detail in the ensuing sections which relate to the German-American Conference on Educational Exchange.

SECTION II

THE EDUCATIONAL SYSTEM IN THE FEDERAL REPUBLIC OF GERMANY

I. INTRODUCTION

The German American Conference on Educational Exchange, after amenities and statements of purpose, opened with a brief and aborted discussion of the current educational scene in Germany. The basis for comments, questions and observations was a provocative paper written by Dr. Ulrich Littmann, Executive Director of the Fulbright Commission in West Germany (Bad Godesberg), which was appropriately entitled, _An Introduction to the Confusion of German Education_. Unfortunately, the duration of the Conference and the wide range of subjects to be discussed, never permitted a thorough and systematic presentation of the German educational system and the significant reforms which are currently taking place within that system. Therefore, it was necessary for the _Rapporteur_, upon return to the United States, to thoroughly study the present day German system of education so that he might--for the reader--bring some order into what Dr. Littmann so aptly termed "the confusion of German education." To aid in this task, the writer was extremely fortunate to be presented with a copy of the restricted/unpublished document of the Organization for Economic Cooperation and Development entitled the _Reviews of National Policies for Education, Germany_ (286 pages.) One could not ask for a more exhaustive study of the present educational system in the Federal Republic. It was this document, more than any other, which made possible the presentation of the educational structure which follows.

II. INTRODUCTION TO THE EDUCATIONAL SYSTEM

In the section which follows, _The Structure of the Educational System_, the writer attempts to systematically present the German system, generally unencumbered by the multitude of educationally significant experiments--some moderate, some extreme--which are being carried on in the various _Länder_ (states) of the Federal Republic. However, these will be treated generally in the section on education reform.

Before launching into a presentation of the present day educational system, it might be valuable--for purposes of comparison and evaluation--to describe briefly the state of German education before World War I.

Before World War I, education in Germany was a class affair. Those who were to lead received a scholarly education at the _Gymnasium_, sat for the _Abitur_, and then, in all probability, entered the university. Only about four percent of the population sat for the _Abitur_, and only one percent finished the university.

The children of artisans, tradespeople and minor civil servants attended a lower level secondary school called the *Mittelschule*, or *Realschule*. This school was of nine years duration and offered a foreign language, English, after the 5th grade. *The Mittlere Reife* a certificate of middle maturity, was awarded to the successful graduate. This qualified him for higher professional training.

At the lower end of the scale were the schools for the children of the workers and farmers, the *Volksschulen*. Eckhard Stegmann, chief government inspector of schools in Detmold and Vice President of the Association of German Teachers Abroad, describes this educational level, which began at age six and endured for eight years:

> Education was free. Foreign languages were not taught. Apart from the three "Rs" and religion, the only subjects taught were local history and geography, gymnastics, singing, a little world geography and history and botany. In other words, "the common man" was taught what was thought good for him. In elementary school, the children were to be brought up as good Catholics or Protestants and obedient, tidy and industrious subjects.[1]

This system of differentiated schools for the upper, middle, and lower classes which existed during the monarchy in Germany, might be called 19th century European traditional. The characteristics of such schools are effectively put forth in the *Reviews of National Policies for Education, Germany*; they are:

1. Parallel and mutually self-contained schools, one set serving the needs of the leaders and the other the needs of the led.

2. The schools for the elite (5 or 10% of the population) led to the university; the schools for the workers and farmers were viewed as terminal. At best, those who completed the latter type of school were eligible for apprenticeships.

3. Teachers in the elite schools were normally trained in the universities, while those for the mass elementary system were trained in teachers' colleges or educational seminars; frequently the latter were simply training the "elite" of the elementary school. Pay scales also differed, as did status.

4. Curriculum offerings, methods of teaching, and examinations were rigidly set. "The child (was) delivered to the school to be 'moulded'; the school (was) expected to provide a single offering of educational opportunities, to which the children's individual talents, inclinations, and interests (had to) adapt."

5. The main business of the school was to fill the child's mind with "highly specified quanta of information." There were fixed syllabuses and regular examinations. Promotion depended upon examination performance. Those who failed the examination had to repeat the grade.

6. If education exceeded these cognitive aspects, "it tried to inculcate attitudes that contributed to the stability of the existing social and political order; acceptance of the justice of the presently operating social system, obedience to those in authority, and support of some fairly limited notions of patriotism."[2]

Against this background we may now proceed to present the educational system which is currently in effect in the Federal Republic of Germany, fully cognizant that the system is constantly changing and that the innovative experiments have been arbitrarily set aside by the writer. However, in the section on reform we shall look at some of the likely changes of the near and far future, which may enable the reader--at some later date--to reconstruct the system himself.

One should be aware that during the short-lived Weimar Republic (1919-1933), several significant changes were made in the German educational system, the most important being the establishment of the Grundschule (basic or primary school). This four year school, which still is the foundation stone of the German educational system, was made compulsory for all children, with the effect that the children of the factory owner and those of the factory worker studied side by side. An egalitarian step which was to have far-reaching effects, as we shall see.

To aid in comprehending the educational structure of the Federal Republic, we are utilizing a figure which gives a very comprehensive picture of the existing system. The reader should study it thoroughly before he proceeds to the text which follows, especially noting the legend, and carefully observing those symbols which indicate that certain qualifications have been earned. The narrative closely follows the scheme presented in the drawing. (See page 9.)

The reader should keep the following in mind as he reads:

1. Education is the responsibility of the state (Land), not local communities.

2. Beginning at the secondary level, German schools are still selective; a spirit of elitism prevails.

3. Although a spirit of elitism prevails, there is a general awareness that the system must be made more egalitarian. Therefore, the structure is being made more flexible; students can now move from one type of school to another. Horizontal

The Structure of the Educational System in the Federal Republic of Germany, 1973

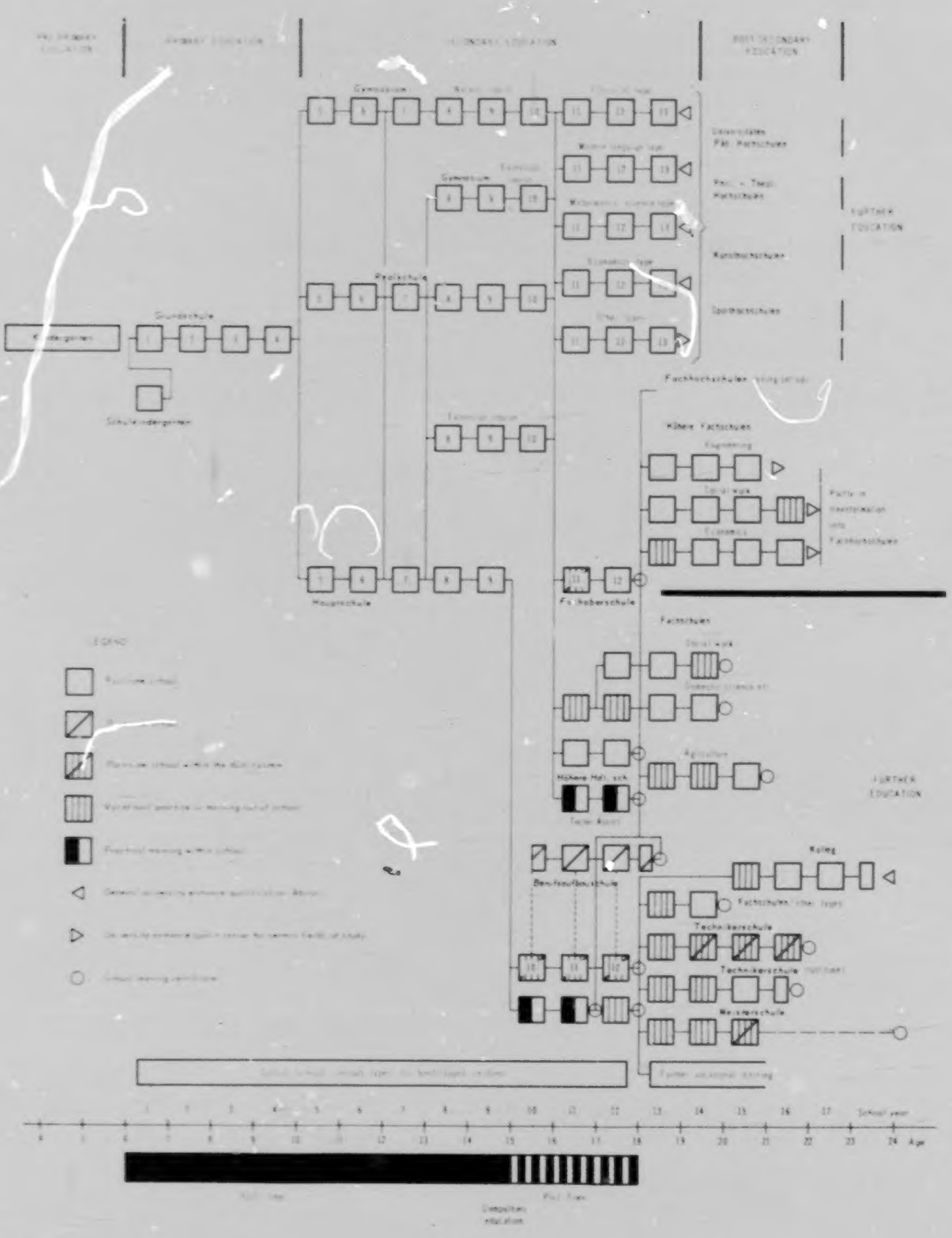
Gymnasium
Realschule
Kindergarten
Grundschule
Schulkindergarten
Hauptschule
Fachoberschule
Fachhochschulen
Höhere Fachschulen
Fachschulen
Höhere Hdl. sch.
Berufsaufbauschule
Kolleg
Technikerschule
Meisterschule
FURTHER EDUCATION
LEGEND
Compulsory education

FIG. I

Source: Organization for Economic Cooperation and Development, Education Committee, Reviews of National Education Policies for Education, Germany permeability is a popular concept.

4. Curriculums are being changed and new institutions are being created to make transfer possible and--for the student--to keep educational options open.

III. STRUCTURE OF THE EDUCATIONAL SYSTEM

Pre-School Education

Pre-school education is offered in the Kindergarten, which enrolls children between the ages of three and six. Through play the Kindergarten child develops his physical and mental capabilities and learns to adjust to the group and to the community. Considerably less than half of the German children in the appropriate age group are able to find Kindergarten places. Traditionally, these schools have been operated by non-public organizations (75%) which charge fees.

Another form of pre-school education is offered by the Schulkindergarten, which is organizationally linked to the primary school. These schools accept students who are of compulsory school age, but who are not sufficiently mature to begin regular schooling. The object of these schools is to prepare the child for formal education through his natural inclinations for play and activity rather than through the school syllabus. Each year approximately 7% of all six-year-olds in Germany are entered in such schools.

In some Länder (states) parents are permitted to enter their less-than-compulsory-school-age-children in these schools in order to give their youngsters a head-start.

Primary Education

In the Federal Republic of Germany compulsory education begins for the German child when he reaches six years of age and continues until he is eighteen or older. At six he enters a primary school called the Grundschule (Basic School), which prepares him for studies beyond the elementary level. The Grundschule is normally a four-year school (grades 1-4), but, in some places, notably Berlin, Bremen, and Hamburg, it is a six-year institution. Studies at the Grundschule are not divided into subjects until the third year. (For an outline of studies at a Grundschule, see Appendix B(a) and (b), pages 80 and 81.)

Secondary Education

It is difficult to neatly fit German secondary education into an educational structure, since, at the present, it assumes so many forms and undergoes so much change. The following quotation sheds light on the problem:

> In the present state of discussion of school reform in the Federal Republic, the concept of secondary school can, for the moment, only be laid down to the

> extent of saying that secondary schools are those which provide an education beyond what is available in the primary school. It can, in addition, be said that secondary education ends where the university or higher education begins without its upper limit being thus completely determined, since there are school institutions providing for vocational training, some of which allow a transfer to higher education and some of which do not. In the latter case, starting to work after conclusion of the *Berufsschule* (part-time vocational school) marks the upper limit of this form of secondary education.[3]

It is evident from the foregoing that one will not easily comprehend the nature and extent of present day secondary education in the Federal Republic of Germany, but we shall endeavor to make it as clear as possible.

General and Vocational Secondary Schools

German secondary schools are of two types, one type offering general studies and the other offering vocational studies. The general schools are usually full-time schools and are classified as *Hauptschulen*, *Realschulen*, and *Gymnasien*. The vocational schools are either full-time or part-time and are classified as *Berufsschulen*, *Berufsaufbauschulen*, *Fachoberschulen*, *Fachschulen*, and *Hohere Fachschulen*, or *Akademien*. A broad description of the general schools and the vocational schools will follow a statement of how the transition from primary to secondary school is accomplished.

The Transition from Primary to Secondary School

After the German student completes four years of schooling at the primary level, he automatically enters the *Hauptschule*, unless he and his parents indicate a preference for the *Realschule* or the *Gymnasium*. If such a preference is indicated, the *Grundschule* administrators prepare a report on the student and forward it to the preferred institution. At this point the aspiring student may be given an examination, and, on the basis of the examination and the *Grundschule* report, admission to the *Realschule* or *Gymnasium* will or will not be granted. If the student is admitted, he is admitted to a probationary status for a period which may extend from six months to two years, depending on the state in which the student resides.

Some *Länder*, feeling that grade 4 and age 10 is too early to make a decision about which type of secondary school a primary student should attend, are experimenting with a two-year "promotion stage" (*Förderstufe*) which will delay the secondary school choice for two years, or until the completion of grade 6.

The General Secondary Schools

As noted previously, the general secondary schools are the *Hauptschule*, the *Realschule*, and the *Gymnasium*; a description of these schools follows:

The Hauptschule. The *Hauptschule* (Main School) was at one time incorporated with the *Grundschule* and the institution was known as the *Volksschule*. Today it is a separate secondary school of five years duration (grades 5-9). The *Hauptschule* leads to vocational training schools and apprenticeships, and to an unskilled or semi-skilled role in the economy. However, via a *Berufsaufbauschule* and a *Fachoberschule*, the *Hauptschule* can also lead to institutions of higher learning. Students who attend the *Grundschule* are not irrevocably committed to this institution if they demonstrate they are capable of doing the work at a *Realschule* or a *Gymnasium*. Talented students may transfer. This innovation in German education was made possible by changes in the *Hauptschule* curriculum, notably the addition of a modern foreign language and mathematics, subjects which are required of those who attend other types of general secondary institutions, as we shall see. However, the majority of German primary school leavers (approximately two-thirds) enter the *Hauptschule* and remain there through the final year, grade 9. On the other hand, an increasing number of *Hauptschule* students are transferring to the *Realschule* or the *Gymnasium*.

Another significant development in the *Hauptschule*, in some states, has been the addition of an optional 10th year which enables the qualified *Hauptschule* graduate to directly enter the *Fachoberschule*, and thence the newly organized sub university, the *Fachhochschule*. (See Glossary, *Fachoberschule* and *Fachhochschule*.) (See Appendix B(c) page 82 for a typical *Hauptschule* course of study.)

The Realschule. The *Realschule*, once identified as the *Mittelschule*, is a six-year general secondary school encompassing grades 5 through 10. In Bavaria it encompasses grades 6 through 10, and in Berlin, Hamburg, and Bremen, grades 7 through 10. Those who successfully complete the program at the *Realschule* earn the *Mittlere Reife* certificate,[4] and are thereby qualified, after additional vocational training, for middle-level positions in the public or private sector of the economy. Such positions include middle-level civil servants, secretaries, nurses, medical technicians, social workers and salesmen, administrators rather than executives.

Graduates of the *Realschule* are eligible to enter such secondary vocational schools as the *Berufsfachschulen* and the two-year *Fachoberschulen*, which, in the case of the latter, may lead to university-level studies in designated areas. Other educational options are open to the holder of the *Mittlere Reife*, including transfer (in all states) to the various forms of the *Gymnasium*. However, the majority of *Realschule* graduates continue with vocational training, combining apprenticeships and schooling.

The Realschule differs from the Hauptschule in significant ways; for example, 1) its academic program is one year longer than that of the Hauptschule; 2) it offers a more varied foreign language program (two foreign languages of which one is required); 3) a greater number of courses in the field of natural science; and, 4) a deeper penetration of the subjects taught.

As indicated earlier, students may transfer from the Hauptschule to the Realschule, normally at the end of the 7th grade. In order to accommodate and to assimilate such students, the Realschule provides an extension form (Aufbauform) of three years duration, grades 8 through 10. Similarly, the qualified Realschule student may transfer to the Gymnasium at the end of grade 7, except in the state of Bavaria. (See Appendix B(d) page 83 for a typical course of study at a Realschule.)

The Gymnasium. The Gymnasium, which grew out of the Latin school of the Middle Ages, is a general secondary school giving a scholarly basic education. In most states it is of nine years duration (grades 5-13), but in Hamburg, Berlin, and Bremen it is seven years, and in Bavaria it is eight. The purpose of the Gymnasium has always been to prepare its students for entrance to the university. While only 40 out of every 100 who enter the Gymnasium gain the Abitur (the final examination of the Gymnasium), of those who do, over 90% continue their studies at the university, 96% of the men, and 86% of the women. A large number of those who enter the Gymnasium terminate their studies purposefully at the end of the 10th grade and receive the Mittlere Reife, the certificate identical to that which is awarded to those who successfully complete the Realschule. This latter group of students usually enters a vocational school or continues with vocational training.

Today the Gymnasium assumes a number of forms, but three forms predominate; they are as follows:

1) the fading traditional and classical form in which Greek, Latin, and one modern foreign language are compulsory;

2) the modern language form which requires Latin and two modern foreign languages, English and French; and,

3) the mathematics and science form, concentrating on mathematics and natural science, but also requiring two foreign languages; Latin and English are normally the only foreign languages taught.

As previously stated, other forms of the Gymnasium exist at the level of grades 11 through 13. Those forms which lead to unqualified university admission are the social science, economics, and fine arts types. Other forms of the economics Gymnasium, the Wirtschaftsgymnasium, and the

Gymnasium for girls, the *Frauenoberschule*, lead to *qualified* admission to the university; in other words, students are limited to fields of study where only one foreign language is required. These qualified-for-limited university study schools are generally intended for students transferring from the *Hauptschulen*, the *Realschulen*, or the vocational schools. Some states (*Länder*) maintain other forms of the *Gymnasium*, for example, technical *Gymnasien*, *Padagogisch-musische Gymnasien*, and the *Werkgymnasien*. The entire process of entering the universities via the various types of *Gymnasien* is graphically produced on the educational structure figure on page 9. The reader should--while studying the figure--give particular attention to the triangular figures and the direction in which they point. Education at the *Gymnasium* concludes with the *Abitur*, a formidable written and oral examination which, if passed, gives the student the right to enter any German university, without additional examinations. (See Glossary, *Abitur*.) Annually about 10% of the relevant age group in the German population earns the *Abitur*. (*Gymnasium* Lesson Plans, see pp. 85-92.)

The *Gymnasium* has a three-year extension form (grades 8-10) which receives students who transfer in from other secondary schools.

Special Forms of General Secondary Schools

There are three types of General Secondary Schools in the Federal Republic of Germany which provide the opportunity for employed Germans to gain secondary school qualifications, qualifications which will enable them to get better jobs and to achieve a higher social status. They are the *Abendrealschulen*, the *Abendgymnasien*, and the *Kollegs*. The reader is referred to the Glossary for descriptions of these institutions.

The most recent statistics available to the writer about attendance at these institutions were garnered in 1969, but, even so, they are given below because they are revealing and provide some indication of the role these schools are presently playing in German society.

In the school year 1969-70 there were 1,100,000 children in *Kindergärten*, 80,000 in the *Schulkindergärten*, 3,600,000 in the *Grundschulen*, 2,400,000 in the *Hauptschulen*, 839,300 in the *Realschulen*, 984,700 in the six year *Gymnasien* (grades 5-10), and 94,700 in the three year *Gymnasien* (grades 11-13). (The *Gymnasien* figures are for 1968-69.) By contrast 1969-70 figures show an enrollment of 8,400 in the *Abendrealschulen*, 9,400 in the *Abendgymnasien*, and 5,700 in the *Kollegs*. The numbers of those who passed the terminal examinations of these institutions in 1968 were as follows: 1,500 of those in the *Abendrealschulen* and 1,300 in the *Abendgymnasien*. The figure for the *Kollegs* revealed that 1,400 were sitting for the 1969 *Abitur*. Obviously, at the present, large numbers of persons are not enrolled in these institutions, but, on the other hand, they are serving a very real function for a limited number of people. It should be mentioned that exceptionally talented people in a given area of learning may be admitted to the university even though they have not taken the *Abitur* while enrolled in a *Gymnasium*. These persons are normally between 25 and 40 years of age, are judged competent by persons qualified to judge, and sit for special written and oral examinations.

Schools for the Handicapped

In the German school system there are schools for the mentally handicapped and for those who are emotionally disturbed, for those who are partially deaf and for those who are totally deaf, for those who are completely blind and for those who are partially blind, for those who are physically handicapped and for those who are ill, for those with speech afflictions, and for those who are socially maladjusted (juvenile delinquents). It is only our intention to make the reader aware that such schools exist and not to describe them in any detail. (See page 93.)

Vocational Education at the Secondary Level

Since there are over 50 different types of vocational schools in the Federal Republic of Germany it is not reasonable to attempt to cover them in detail in this presentation, even though they enroll over 50% of all general secondary school-leavers and represent an extremely important segment of German education. However, it is important that we identify the major categories of vocational schools, that we define their role, and that we have some idea of the numbers they serve.

The Berufsschule and Indenture (the dual system). Upon the completion of nine years of general primary and secondary schooling, four years in the Grundschule and five years in the Hauptschule, over half of all school-leavers in the Federal Republic of Germany embark on a course of practical training with a firm. This lasts from three to three-and-one-half years. During this period of apprenticeship, students are actually indentured to a firm. At the same time as the student is undergoing this practical training, he is enrolled in a compulsory part-time vocational school known as a Berufsschule (See Figure 1, p. 9), where--for one or two days a week--he receives up to 12 hours of general academic instruction. In 1969 the number of students enrolled in training programs of this sort was 1,300,000. This arrangement is known as the "dual system" which trains such personnel as plumbers, toolmakers, bank clerks, filling station attendants, bricklayers, gardeners, photographers, hairdressers and so on. There are over 500 trades in the Federal Republic of Germany for which students prepare in this way. (See page 95 for Lesson Plan.)

Once during, and at the end of his on-the-job training, the student is subject to an examination which determines his progress and his final competency in his trade. These examinations are administered by the appropriate authorities, e.g. chambers of industry and commerce. The examining committees consist of employers, employees, and vocational school teachers. There are approximately 10,000 such examining committees in the Federal Republic. In 1969 the number of final trade examinations taken was 464,000; 97,000 were industrial skilled workers' examinations, 213,000 were commercial/clerical examinations, and 154,000 were journeymens' examinations for the handicraft trades. Failures in 1967 in these respective examinations were 10.2%, 17.7%, and 12.8%. A student who fails his final examination may repeat it twice. Generally, successful completion of the examination serves as the basis of admission to the Fachschulen, e.g. the Technikerschule.

The student's indenture to a firm is governed by the Vocational Education Law which covers such items as the length of the training, a breakdown of the phases of training, the portion of training to be carried on outside the firm, the daily amount of training, wages, holidays and so on. The Law also sets the standards for the firm's teachers, who are usually deemed qualified if they have passed the final examination in their field of training. By contrast, teachers of academic subjects in the *Berufsschule* are university graduates who have had up to eighteen months of practical training in industry or trade. The teacher of practical subjects at the *Berufsschule* has passed either the master craftsman's examination in his subject or has a certificate from an appropriate technical school (*Fachschule*). As indicated previously, dual system students are examined in their trade by appropriate authorities; contrariwise, the *Berufsschule* awards a certificate, usually without examination.

The Berufsfachschule. The *Berufsfachschule* is a secondary vocational school which offers full-time rather than part-time courses, as the *Berufsschule* does. The courses are of at least twelve months duration, and wholly or partially replace on-the-job training. They aim at furthering the student's general education and, in addition, prepare him for further vocational training. Some--not all--of the courses at the *Berufsfachschulen*[5] lead to the *Fachschulreife*, which is an intermediate certificate recognized as the equivalent of the *Mittlere Reife* of the *Realschule*, which, again, educators in the Federal Republic consider somewhat equivalent to a high school diploma in the United States. Generally speaking, those students who attend the *Berufsschulen* and the *Berufsfachschulen* go on, if they go on, to the *Fachschulen*, specialized schools which are not oriented towards the university.[6] (See pages 94 and 96-97.)

The Berufsaufbauschule. *The Berufsaufbauschule* is a secondary vocational school, which, if it is successfully completed, leads to the *Fachschulreife*. Possession of the *Fachschulreife* entitles the student to enter those higher vocational schools requiring the qualification of the *Mittlere Reife*, schools which, in turn, lead to the *Fachhochschulreife*. Students who enter the *Berufsaufbauschule* are those who have completed at least six months at the *Berufsschule*, or who have completed the *Berufsschule* and are, or have been, undergoing vocational training, or those who are or have been employed. The courses at the *Berufsaufbauschulen* are more subject-oriented than are the courses at the *Berufsschulen* and the *Berufsfachschulen*. Subjects taught include German, foreign languages, history, geography and economic geography, mathematics, physics and chemistry. Naturally, vocational subjects related to the student's job objective are also taught. Instruction for the *Berufsaufbauschule* students is given at *Berufsschulen*. Full-time courses last two half-years, part-time courses six half-years, and mixed courses last three half-years and one full half year. As intimated previously, *Berufsaufbauschule* students, if they gain the *Fachschulreife*, equivalent to the intermediate certificate (*Mittlere Reife*) of the *Realschule*, can enter *Ingenieurschulen*, *Fachschulen*, and *Höhere Fachschulen*, *Technische Oberschulen* and *Gymnasien*, which lead to university qualifications (*Hochschulreife*) in certain fields of study. There is some uncertainty about the role of the *Berufsauf-*

bauschule with the development of the new *Fachoberschule*. The latter is treated in the next section.

The Fachoberschule. The *Fachoberschule* is a new secondary institution agreed upon by the *Länder* (states) in late 1968. This school is of two years duration, covering grades 11 and 12. Successful completion gives the student the *Fachhochschulreife*, which qualifies him for admission to the equally new *Fachhochschulen*. (See Glossary, *Fachhochschule*.) There are a number of routes which can be followed to gain admission to the *Fachoberschule*. One can enter it from the *Gymnasium*, the *Realschule*, the *Berufsaufbauschule*, or through a voluntary tenth year which some states have added to the *Hauptschule*. Students who possess the *Fachschulreife*, the certificate awarded after completion of the three-year course at the *Berufsaufbauschule*, may enter the *Fachoberschule* at the 12th grade level since they have received documented vocational training as a result of their attendance at the *Berufsaufbauschule*. *Realschule* students with the *Mittlere Reife* and a vocational training certificate can also enter the *Fachoberschule* at the 12th grade level.

The first year at the *Fachoberschule* (grade 11) is devoted to practical training with only one day a week being given to general studies and to instruction related to the student's field of study, for example, Engineering/Technology or Social Work Education. In the 13th year the emphasis shifts heavily to the general and subject field studies, which includes four hours of English. (See Appendix B(s), p. 98, for example of the *Fachoberschule* curriculum.)

Admissions officers in the United States who admit students from the Federal Republic should probably be very much aware of this new addition to the school system of the Federal Republic of Germany. The *Fachschulreife*, which it awards, comes after twelve years of schooling, or more if students approach it from the *Berufsaufbauschule*. While educators in the Federal Republic would contend that ten years at the *Realschule* or *Gymnasium* are roughly equivalent to a twelve year high school education in the United States, most U.S. admissions officers would probably not recognize it as such. However, the twelve years of education which the *Fachhochschulreife* represents, ought to present no particular problems for the American admissions officer who might very well admit the *Fachoberschule* student with the *Fachhochschulreife* to freshman admission.

The Fachschule. It is to be noted on the figure of the educational structure in the Federal Republic of Germany, page 9, that *Fachschule* education normally comes after the student has completed his compulsory twelve years of schooling and training. The *Fachschulen* train specialists and are viewed as schools giving completed vocational training. Therefore, they are not thought of as institutions which prepare students for the university. On the other hand, it is not impossible for those completing a *Fachschule* to gain admission to the university, but entering a university via this route is not easy. It represents, as Ulrich Littmann puts it, "a kind of march through the educational system." However, there are students marching relentlessly through the Grundschule, Hauptschule or Realschule, Berufsfachschule, Fachschule, Abendgymnasium, or Kolleg, to the Universität (university). Those who pursue this route will be approximately 30 years of age by the time they gain their Diplom or pass their Staatsexamen, providing there are no significant interruptions of their studies. In 1969 there were approximately 104,000 students enrolled in the Fachschulen.

Training of Teachers

Teacher qualifications for primary and secondary schools vary from state to state, but, generally speaking, there is considerable similarity in teachers' backgrounds and training. This equalization is one of the significant accomplishments of German education in recent years. There was a time--before 1925--when teachers' qualifications varied greatly, according to the type of school that was served. Today, all teachers in schools of general and vocational education possess at least the Abitur, plus three years of education beyond the Abitur. This means that all teachers in the Grundschule (primary or basic school), the Hauptschule (main school, once part of the Volksschule), the Realschule, and the Gymnasium, plus the vocational schools, have--roughly--the equivalent of an undergraduate degree earned in the United States. Of course, teachers in the Gymnasium and the vocational schools have more than three years of education beyond the Abitur, because it is required that they be university graduates. Thus, their preparation includes at least eight semesters of education beyond the Abitur, which gives them qualifications somewhat equal to the master's degree in the United States.

Generally speaking, Grundschule and Hauptschule teachers are trained at Pädagogische Hochschulen (colleges of education) which offer a three year course in education and subject-oriented studies. Each teacher so trained specializes in one subject, for example, mathematics.

Teachers at the Realschule are trained at the universities for at least six semesters and then are qualified to teach two subjects. Periods of practical work are also included in the Realschule teacher's course of study.

Gymnasium and vocational school teachers spend at least eight semesters at the university. The Gymnasium teacher prepares to teach two subjects. The vocational teacher, in addition to his academic training, spends approximately eighteen months in an industry or trade. His university supervises the program.

When teachers complete their studies they take a first state examination. If they are successful in the examination, they then begin a period of in-service training which extends from eight months to four years, depending on the Land (state) and the school level at which they plan to teach. After the future teacher completes his preparatory service, he takes a second state examination. If he passes it, he is then considered to be fully trained. Subsequently, after a probationary period, he is appointed as a civil servant. With few exceptions, all teachers in the Federal Republic--from the primary school through the university--are civil servants.

Higher Education (The Tertiary Sector)

Four types of institutions are classified as falling into the higher education category, the universities and the technical universities, the teacher training colleges, the academies of fine arts, music, sports and television schools, and the newly established vocational colleges.

In recent years the institutions of higher education have experienced great growth. During the 1960's enrollment increased 53%, from 281,000 to 429,000. Further growth of significant proportions is anticipated in the 1970's and the 1980's. The Science Council, Wissenschaftsrat, predicts that by 1985 enrollments in the tertiary institutions will reach 1,000,000. Contrary to what has happened in many countries, population growth has not been a significant factor in larger university enrollments. Growth is due more to increased opportunities for all classes of society to enter the university, plus the tendency of German students to remain in the university for longer periods of time. (See Table III, page 34.) Needless to say, such growth places tremendous strains on those who must plan for and finance the future. It is estimated, if present plans materialize, that by 1985 the total public expenditure on higher education and research (in the F.R.G.), including all research expenditure to be financed from public sources, will rise from its 1970 level of 6.6 billion DM to 20.2 billion DM (in constant 1970 prices).[8]

Beyond this vastly increased financial expenditure, there will be the need for constant planning and experimentation. Then, after the planning and financing phase, the buildings must be constructed (30 new universities), the faculties trained (50,000 teachers now, 100,000 will be needed in the 1980's), and the administrators recruited. Concurrently with the planning and building, there will be an on-going program of educational reform which will ultimately transform the entire educational system from kindergarten through university. The enormity of the educational job in the F.R.G. in the next decade staggers the imagination.

The University, Technical University, and Institutions of Similar Status. According to the International Handbook of Universities[9] there is a total of 41 universities and technical universities in the Federal Republic of Germany. (See Appendix D, page 104, for listing.) These institutions prepare students for professions which require a university education, for example, lawyers, doctors, teachers, engineers and so on. At the same time, they are required to do research. This combination of scholarly pursuit and research has been the hallmark of the German educational system for over a century.

> "The link between training and research is characteristic of such institutions and governs the nature of training as well as the legal status of the universities.

> On the one hand they are under the authority of the Länder (states), which are responsible for their financial support (investment costs are shared with the Federal Government), whilst on the other they are self-governing bodies with the right to organize their own courses of study and employ supplementary personnel.[10]

An American unfamiliar with German universities might understandably assume that German and American universities were very much alike, but such is not the case, they differ in some very fundamental ways. To help us appreciate these differences, Ulrich Littmann has listed some of the characteristics commonly found in U.S. colleges and universities which are not to be found in German universities:

(a) the distinction between graduate and undergraduate education

(b) credits, quality points, grade point averages

(c) admission tests: Graduate Record Examination, College Entrance Examination Board, etc.

(d) academic advisors

(e) vocational fields of instruction

(f) campus social life (bands, games)

(g) alumni activities (homecoming, fund raising)

(h) "program" (of study)[11]

While the American student is guided, follows his program of study, compiles credits, and earns a cumulative point average and subsequently is awarded a degree, it is quite different with the German student who is very much on his own, follows no program, earns no credits and has no cumulative point hour ratio. After the German student is admitted to the university on the basis of his performance on the Abitur, and that alone, he begins preparing for the crucial examinations. The first of these usually comes after four or five semesters and is known as the Vordiplom or the Zwischenprüfung. If the student passes these he continues on and prepares for the first degree examination, the Diplom, the Staatsexamen, the Magister Artium, or the Lizentiat, all of equal status. The first degree examination normally comes after the student has been in the university for at least eight semesters. (The duration of studies subject will be treated more fully in the section on "Equivalences.") If the student is qualified, he may go on to the doctorate, which may be earned after an additional two years or more of study. The process of earning the doctorate is called Promotion.[12] Beyond the doctorate there is Habilitation, a post-doctoral degree requiring at least three years of study, plus the publication of a scholarly work. This degree is the prerequisite for full university teaching, and is the epitome of German education.

While Americans have state examinations to gain certain professional qualifications, for example, the state medical and the state dental boards, they are not quite so directly associated with university study. To help us understand the differences between the Staatsexamen (state examination) and the Diplom (diploma examination) Littmann comments (a verbatim statement taken from Conference tapes):

> ...the Diplom exam and the Magister Artium, the M. A., are academic exams and are subject to the examination of the university, or, even more specifically, of the departments or schools of humanities or social sciences. On the other hand, the stateboard exams (Staatsexamen) are given by the state examiners and the professors, the professors being state board examiners the minute they sit on the examination board...

While it is normally necessary for the American to have a first academic degree, B.S. or B.A. and even a second academic degree, M.D. or D.D.S., to sit for certain state boards or civil service examinations, it is not so in Germany. The German student does not need an academic degree to sit for the state examinations. He elects one examination or the other, depending on his field of study and career objectives. In the Glossary under Diplomprüfung and Staatsprüfung there is a listing of the various examinations offered by the German universities and the states (Länder). Under Doktorat one will find a list of the doctorates awarded by the universities in the F.R.G.

It is not our intention in this presentation to go into a full explanation of German university organization and student life. For a brief discussion of this subject we refer the reader to Appendix C, page 99.

We have casually referred to admission to the German university, but it needs a fuller treatment since the recent demand for university education has seriously exceeded its availability. As previously stated, any German student who successfully passes the Abitur at the completion of grade 13 has a constitutional right to a place in any German university, to study anything he wishes for as long as he wishes. While this right still exists, the lack of classroom, laboratory, and library facilities makes it impossible for educational authorities to honor it as they have in the past. This being the case, it has been necessary for the various Länder (states) to put certain restrictions on admission to the university. This limited admission is referred to as the Numerus Clausus, and presently is in effect in the following German university faculties: architecture, biology, chemistry, medicine, pharmacy, psychology, mathematics, and physics. In some universities the faculties of law and economics are also restricted.

To deal with this situation--and to do it justly--a center was set up at Dortmund to assign university places. Assignments are based on the student's performance on the high school leaving certificate examination, the Abitur (60%), and, in addition, on the length of time he has been waiting for a university place (40%). Presently 15% of the places in the university are reserved for the socially disadvantaged, and 8% for foreigners.

In concluding this section, one should mention that German educators are attempting to accommodate more students by limiting the prescribed amount of time allowed for earning a degree, and by providing better academic guidance. In other words, educational planners are endeavoring to make the academic system more efficient at the university level. This effort to get students through the university more quickly has met with considerable resistance since it runs counter to long established traditions regarding the students right to pursue his degree at his own pace.

The Pädagogische Hochschulen (Teacher Training Colleges). The Pädagogische Hochschulen (which are frequently referred to as PH) are institutions which primarily prepare teachers for the Grundschulen (Basic Schools) and sometimes for the Realschulen but not the Gymnasien. The latter are prepared at the university. According to the 1971 edition of the International Handbook of Universities there are 27 independent teacher training colleges in the F.R.G. (For a listing of these schools see the Appendix E, page 109.) However, in some instances, the PH may be a department within the university. Between 1960 and 1970 enrollments in teacher training institutions increased from 33,100 to 68,[illegible]00. Even so there is a shortage of teachers in the Federal Republic. Some Länder--to meet this shortage--have even gone outside of Germany to recruit teachers.

The course of study at the PH lasts for six semesters and centers on problems of education and related subjects, for example, psychology, sociology, and group dynamics. The elementary teacher specializes in at least one subject. Recently these institutions have been going through a process of upgrading which increasingly moves them towards university status. Research is more and more a part of the PH activity.

To gain admission to the teacher training institutions, one must possess the Abitur or have successfully completed vocational training and taken a special admissions examination. Courses are usually terminated after three years with the first state examination. (See Prüfung für das Lehramt in the Glossary.) However, in some Länder (states), students may take additional courses and examinations and thereby receive a diploma in education. (See section on the Training of Teachers, page 18.)

"Kunsthochschule" (College of Fine Arts), "Hochschule für Fernsehen und Film"(College of Television and Film), "Musikhochschule" (College of Music), and "Sporthochschule" (College of Sport). It is not our intention to describe these schools in any detail, and, where appropriate, they will be considered together.

Presently there are twelve colleges of fine arts and fifteen colleges of music (sometimes including dramatic arts) in the Federal Republic of Germany. (See Appendix F, page 112, for a listing of these schools.) Total enrollment for both types of schools approximates 10,000. The objective of these schools is to train professional artists, (vocalists, instrumentalists, conductors, composers, painters, sculptors, etc.) or specialized teachers. Those who intend to pursue a career in teaching must have the Abitur, or its equivalent, plus artistic talent. Those who plan to follow a professional career in art or music may enter without the Abitur, but, they must be artistically gifted, have "a good liberal education", and be at least 17 or 18 years of age. In addition, in the case of those lacking an Abitur, an entrance examination may be required. However, the initial year may--in some instances--serve as a trial period. The curriculum for teachers is of four or five years duration and ends with a state examination, the Lehrerprüfung. To pursue a professional career in music, the student aims for the Konzert- Reifeprüfung. However, it is not unusual for a student to take both examinations and thus qualify for teaching and a professional career. Colleges of art give examinations which qualify for teaching only. Certificates are awarded to other students outside of the field of art education. Professors and instructors at these schools are usually chosen from the worlds of music and fine arts; some are full-time and some part-time.

As indicated previously, these schools prepare persons to teach and perform, but they also "develop and explore new methods of artistic and musical presentation." By increasingly expanding this activity they continually move closer to university status.

There are two schools of film and television in the Federal Republic. One is the Deutsche Film-und Fernsehakademie in Berlin, and the other the Hochschule für Fernsehen und Film in Munich. The former was founded in 1966 and the latter in 1967. The objectives of these schools is to train those who plan to become producers, directors, cameramen, and so on; in other words, those who wish to enter the production aspects of the profession.

The Berlin school assesses artistic talent by means of an entrance examination. Then, after admission, the student pursues a course which, in the first year, emphasizes the history of film-making; in the second year, the student concentrates on various aspects of the industry and concludes the year with a preliminary examination. The final period of study is directed towards a specialization which includes theoretical and practical work. The course is concluded with the awarding of a diploma.

The Munich school requires the Hochschulreife for admission, but exceptions to this requirement may be made if the student is exceptionally gifted. Certificates are awarded upon completion of the course.

There are two Sporthochschulen in the Federal Republic, one at Cologne which enrolls approximately 1,300 students, and the other at Munich-Grünwald which enrolls approximately 500 students. Both of these train teachers; that training includes doing research in the field of sport. The Abitur or its equivalent is required for admission. Universities and technical universities also have departments which give similar training. The four year course is concluded with the Staatsexamen (state examination).

The Fachhochschule. Dr. Ulrich Littmann describes the Fachhochschule as follows:

> The Fachhochschule (vocational college)is a new institution with old roots. It consolidates and condenses the former sub-university schools for vocational training (Fachschulen), schools for advanced vocational training (Höhere Fachschule) and so-called engineering schools (Höhere Technische Lehranstalt), also Ingenieurschule; Ingenieur-Akademie; typically, social workers and practical engineers (above the level of university-trained Diplom-engineers) would go through the schools, but also practical business administration experts (lower level), administrative assistants in public service could go through these schools.[13]

Those schools which have been consolidated into the Fachhochschulen, usually give three years of practical training after a student has completed ten years of primary and secondary education; the course terminates with a state examination. Now the Fachhochschulen will admit students who have completed at least twelve years of primary and secondary schooling. The qualifying for admission certificate will be the Fachhochschulreife, which will be awarded after successful completion of the Fachoberschule.

> According to the 1968 agreement between the Länder (states), the aim of the Fachhochschule should be "to provide on a scientific basis courses of education leading to a final state examination and developing in graduates the ability to carry on their professional activities independently." It is clear from this that there is to be a shift of accent to theory and method, without jeopardizing the existing special relationship between training and practical application. The trend in this direction is also evident from several laws relating to the Fachhochschulen which explicitly state that application-oriented research should be one of the tasks of the Fachhochschule, provided it serves the aims of training. Thus the courses offered by the Fachhochschule will differ in character from the practice-oriented training given up to now, and also from those universities, which for the most part are theory oriented.[14]

Further Education (Weiterbildung)

The rapidity of change within the technological, economic and social spheres has created in Germany a recognition of the need for lifelong education. As a result, a variety of programs has sprung up to enable the employed to maintain, complement, extend and improve their vocational knowledge and skills. Other programs have been designed to train people for new jobs and thereby increase their vocational mobility.

Along with this recognition of the necessity for continued vocational training, there has also developed an awareness that general education must accompany the vocational training. Therefore, fundamental courses of study are offered in such subjects as German, mathematics, sociology, psychology, natural sciences, and so on. However, along with the courses that have a direct relationship to vocational training, there are other courses offered which simply appeal to interest and general enrichment of human activity outside the area of employment. Courses designed for these purposes fall into a category which could be interpreted as adult education.

The state (*Land*) has no mandate to provide continuing vocational training or adult education. Thus, most of the programs in this field are provided by private groups, churches, organizations, business, trade unions, and so on. On the other hand, the state has a genuine interest in this educational activity and seeks ways to strengthen, expand and coordinate it, mainly by providing financial support, library facilities, and continuation programs for teachers, public administrators and soldiers. The *Länder* (states) are also utilizing radio and television to promote further education. In Bavaria, for example, people with a job can--through television--gain the *Realschule* qualification by studying the *Realschule* language courses which are being offered via television. Correspondence courses are also available from commercial and state sources. While the state has no mandate in this field, the district, city and local authorities do--a public mandate. Thus, these authorities have established what are known as *Volkshochschulen* ("Adult Education" schools). The "adult education" schools provide a comprehensive range of educational facilities which offer both general education and vocationally oriented courses. Cultural events are also sponsored by the *Volkshochschulen*. In 1969 there were 588 municipally sponsored courses, and a total of 1,194 *Volkshochschulen* with various sponsors throughout the federal area, including Berlin. Over 4,000,000 people attended individual events, and over 2,000,000 attended group activities and events.

The courses offered by individual sponsors in the further-education sphere do not end with certificates that give fixed rights to admission to studies, as is the case with state-recognized qualifications in the school and university system.

SECTION III

EQUIVALENCES

I. INTRODUCTION

One of the major concerns of the German-American Conference on Educational Exchange was degree, diploma and certificate equivalences. While no effort was made to reach definitive conclusions on such matters, there was lively discussion. Needless to say, the Germans and Americans present did not always agree with each other on these matters, nor did the representatives of the respective countries always see eye to eye with one another. It was interesting to observe that the more one nationality group knew of the other's system, the more flexible its members were likely to be when discussing equivalences.

Some of the group's differences regarding equivalences resulted from the fact that some conferees wanted to base equivalences largely upon the duration of studies, basically an American position, while others felt that content and quality were more important, basically a German position.[1] When a situation of this sort develops, an impasse usually results and the parties involved often resolve it by agreeing to disagree and leave it at that.

If the reader will keep these circumstances in mind, we will now proceed to report on the discussions of equivalences which took place at the Conference. However, the writer has had to add materials not covered at the Conference in order to provide the reader, especially admissions officers in the United States, with sufficient information to make judgments regarding the admissibility of German students to American colleges and universities. Most of the additions come at the secondary level, where we have new and changing German institutions, such as the Fachoberschulen, which to the writer's knowledge have not been included in earlier American literature on equivalences and which were not discussed at any length at the Conference.

II. HOW AMERICANS ASSESS FOREIGN ACADEMIC CREDENTIALS

Generally speaking, when American admissions officers admit students from other countries they place prime importance on the duration of studies, that is to say, if a student in the United States must have twelve years of primary and secondary school to be admitted at the freshman level at an American university, as he normally does, so must the student from another country. Generally in the admission process, there is little scholarly assessment of what academically goes into the earning of a certificate, diploma, or degree in a foreign system. Naturally, such scholarly assessment would be the most satisfactory way of determining equivalences. However, such procedures have serious disadvantages, one of which is stated in the following quotation, "They have the disadvantage of requiring a series of long negotiations which must be reopened whenever changes are made which affect curricular content or examination requirements or standards."[2]

Practicality dictates simpler procedures, especially in the United States where there are approximately 2,500 autonomous institutions of higher learning, each with its own admissions standards and each lacking standardized syllabuses leading to standardized examinations. With circumstances of this sort prevailing, it is possible to have 2,500 separate policies of evaluation of foreign credentials, and, if one considers that graduate school departments often have the final say on the admission of students to their department, it is possible that there are literally thousands of separate and varying admission policies relating to domestic and foreign credentials. This situation constantly confuses foreign educators and students, especially when they are confronted with multiple admission standards within a single institution. These differences become apparent at any public gathering of American admissions officers, and they were in evidence at the German-American Conference on Educational Exchange. Thus, that which follows must be read with the knowledge that generalizations about acceptable practices were not unanimously accepted; participants frequently voiced objections.

III. EQUIVALENCES AT THE SECONDARY SCHOOL LEVEL

There are three examinations which figure prominently in German secondary education: (1) the Hochschulreife (Abitur) which normally comes after thirteen years in primary and secondary schools; (2) the Mittlere Reife which normally comes after ten years of primary and secondary schooling; and, (3) the Fachhochschulreife which normally comes after twelve years of schooling. German literature generally states that the Abitur is somewhat equivalent to two years at an American college or university, and that the Mittlere Reife, which is the terminal examination of the Realschule, is roughly the equivalent of an American high school diploma. No American admissions officer at the Conference (there were six) subscribed to these evaluations. The American admissions officers operating essentially on the "duration of studies" principle, were not willing to grant admission at the freshman level to the German student who possessed only the Mittlere Reife.

Unfortunately, there was no discussion of what an American admissions officer would or should do with the Fachhochschulreife which comes after twelve years of schooling, four at the Grundschule, six at the Realschule or Gymnasium, and two at the newly established Fachoberschule. If the twelve-years-of-schooling-for-admission-freshman-status policy were to prevail at U.S. institutions, then one would have to assume, if opinions had been expressed, that the Fachhochschulreife would be recognized for admission to freshman status at American colleges and universities. However, an American admissions officer who reached this conclusion would have to keep in mind that German educators, on the basis of the Fachhochschulreife, would not admit its possessor to a German university or technical university. However, they would admit him to the newly established Fachhochschule, which Germans not infrequently refer to as a sub-university. Fachhochschule courses are normally of three years duration. Thus, the reader is left to his own discretion as to what he should do with the German student in possession of the Fachhochschulreife.

Conference participants did not devote any time to discussing equivalences in the *Berufsschule*, *Berufsfachschule*, and *Berufsaufbauschule* areas, areas which so often present problems to American admissions officers when they are confronted with German immigrants who wish to enter U.S. institutions of higher learning. This vocational sector of German schooling is so complex, and its deviations so numerous, that it is virtually impossible to make any generalizations. The writer would suggest that American admissions officers keep this aspect of German schooling under close surveillance since its institutions are regularly being upgraded by German educators. The time may soon come--relatively speaking--when the students coming through the *Hauptschule*-*Berufsschule* route may present credentials for admission which are acceptable to some U.S. colleges or universities. One must keep in mind that presently the vocational student coming through the *Hauptschule* and *Berufsschule* (a part-time vocational school) has only nine full years of general education (*Grundschule* four years and *Hauptschule* five years). However, some *Hauptschulen* are offering a tenth year (voluntary) of education and some *Berufsschulen* are offering increasing amounts of academic work, two days a week instead of one. Further, the *Hauptschule* curriculum is being enriched, for example, with a foreign language, and its teachers are being upgraded. Undoubtedly, changing circumstances of this sort will increasingly produce vocationally oriented students of college or university caliber. Generally, Germans might not--probably would not--agree with this assertion, but Americans should, for our universities tend to be less academically oriented--on the whole--than the German universities. The latter cater to an elite (presently less than 10% of the relevant age group) and demand that all students substantiate their ability to carry on independent research. Generally speaking, neither U.S. admission standards nor U.S. academic expectations are of a similar sort.

One should not overlook the fact that the Germans themselves are increasingly making it possible for the *Hauptschule* student to cross over into the academic stream. However, it would be erroneous to assume that the Germans are significantly lowering educational standards to make the cross-over possible. Nevertheless, where such horizontal permeability was once impossible, it is now possible, and the trend in this direction is gathering momentum. As the result of an egalitarian thrust in present day German society, increasing numbers of Germans are demanding access to higher education. This issue will be discussed further in the section on reforms in German education.

IV. EQUIVALENCES AT THE TERTIARY LEVEL

As intimated previously, most of the Conference discussions about equivalences centered on equivalences at the tertiary level. The purpose of the discussions, especially from the German viewpoint, was not to arrive at precise equivalences, but rather to explain and to clarify present practices. None of the Conference participants to whom the writer spoke during the Conference, or with whom the writer has corresponded since the conclusion of the Conference, has been willing to put any official stamp on the results of the discussions. "Instant research" was totally unacceptable to the parties assembled, and rightfully so. Nevertheless, some very useful information issued from the discussions, notably in the area of setting forth--by the German participants--of the German examination expectations at the university and sub-university (Fachhochschule) level.

On the whole, so far as equivalences were concerned, the Americans wanted to cling to their duration-of-studies formula by establishing a timetable for equivalences. The Germans generally rejected this approach feeling that it was inappropriate to their system. Dr. Hartmut Rotter, Referent, the West German Rectors Conference, had this to say about German university examinations and their timing:

> In the Federal Republic we presently have intermediate examinations (Zwischenprüfung) or Vordiplom) in nearly every subject. The purpose of these examinations is to verify or determine certain basic academic achievements. For example, they determine whether a student should discontinue his studies or go on. This examination comes at approximately the half-way point of the minimum number of semesters needed to complete a course of study. However, we must keep in mind that there is no pressure to terminate studies at any particular time. On the other hand, a student cannot sit for the intermediate examination until he has completed a certain amount of work. Generally speaking, the intermediate examination is taken at approximately the fifth semester, but there is no rule that says he must take it then. As a matter of fact, a student may be discouraged from taking the examination at the fifth semester. If the student flunks the examination the first time, he may repeat it. Under circumstances such as these, additional time factors enter into (the decision as to) when the student sits for the intermediate examination. Consequently, we should try to avoid establishing a timetable for the examination and simply understand that the Zwischenprüfung and the Vordiplom come at the halfway point and that it is the first level of degree.
>
> Permit me to go on to the Diplom, the Staatsexamen, and the doctorate. A different situation prevails here. As a general rule the student completes his university studies with the Diplom examination or with the Staatsexamen. However, it is possible, especially in the area of the humanities, that a student will not (sit) for the Diplom (Staatsexamen not required), but will go on to Promotion (the process of obtaining a doctor's degree). Thus, at the point where students sit for the Diplom or Staatsexamen as a first degree, it is possible that they might be sitting for the doctorate instead. In the German system this distinction is very important.[3]

Of course, what Rotter is stressing is that equivalences cannot really be established on a timetable basis, for some German students may take longer than others to get a diploma (Diplom) or pass a state examination (Staatsexamen) or they may by-pass them both and go on to the doctorate. It is generally acknowledged in Germany, and has been for decades, that a university student can study what he wants for as long as he wants. German students prepare for crucial one-time terminal examinations to earn their degrees, while--by contrast--American students achieve their degrees by accumulating a certain number of prescribed credit hours.

Most first-degree courses at a German university require a minimum of eight semesters of study before one can sit for the Diplom or Staatsexamen. However, few students complete their course, which includes sitting for the appropriate examination, in eight semesters. They are more likely to finish it in ten or eleven semesters. German students sit for examinations when they feel they are ready, not when a prescribed period of time has elapsed.

Thus the American admissions officer cannot equate German and American degrees simply by counting the number of semesters involved in obtaining a degree. If one is to properly place German students, one must place them by determining which degree they hold and not how long it took them to get it. (See page 34 for the average time spent by German students at universities and technical colleges.)

Even though the idea of developing an equivalency table was not generally acceptable to Conference participants, one might be developed and prove useful, if the user were to keep in mind Rotter's observation that a "timetable"--at best--provides very rough approximations of equivalences. In preparing the table on page 31, the writer is assuming that students in each system receive their degrees on a normal schedule at institutions which offer "standard"types of degrees.

The equivalence table assumes on the U.S. side that the American student earns his high school diploma after twelve years, his baccalaureate degree after four years, his master's degree after one year and his Ph.D degree after three years. However, Americans know that the exceptions to this timetable almost become the rule. Americans also know that the necessary academic work to earn a professional degree--as far as the time element is concerned--may vary considerably. For example, the M.D. may be earned in seven or eight years, and the D.D.S. may be earned in six, seven or eight years depending on when the student is permitted to enter the professional school.

On the F.R.G. side, the assumption is made that the German student completes the Abitur after thirteen years, the Diplom, the Staatsexamen, the Magister Artium, or the Lizentiat after four years (first degree level) the doctorate after two years, and the Habilitation after an additional three years. Again, these are assumptions which may or may not be borne out in fact, especially in respect to the Habilitation.

During the Conference Dr. Rotter presented the equivalency table which appears on page 32.

TABLE I

EQUIVALENCES BETWEEN AMERICAN AND GERMAN (F.R.G.) DEGREES BY AGE, YEARS OF EDUCATION, AND NAME

AGE	SCHOOL YEAR		
18	12	High School Diploma	Fachhochschulreife
19	13		Hochschulreife (Abitur)
20	14	Associate of Arts Associate of Science	
21	15		Zwischenprüfung Vordiplom Fachhochschule Zeugnisse
22	16	Bachelor of Arts Bachelor of Science	
23	17	Master of Arts Master of Science	Diplom Staatsexamen Magister Artium Lizentiat
24	18		
25	19	Juris Doctor (formerly Ll.B.)	Doktorat
26	20	Ph.D. D.D.S Ed.D M.D.	
27	21		
28	22		Habilitation

TABLE II

ROTTER'S EQUIVALENCES BETWEEN AMERICAN AND GERMAN (F.R.G.) DEGREES

BUNDESREPUBLIK DEUTSCHLAND (F.R.G.)	VEREINIGTE STAATEN (U.S.A.)
Hochschulreife ("Abitur")	Associate of Arts Associate of Science
Zwischenprüfung	Bachelor of Science
Vordiplom	Bachelor of Arts
Diplom, Staatsexamen, (Referendar);	Master of Arts
Magister Artium, Lizentiat	Master of Science
Doktor	Doctor of Veterinary Medicine Doctor of Education Doctor of Medicine Doctor of Philosophy

It is obvious when comparing the American timetable and Dr. Rotter's chart that not all knowledgeable Germans equate American and German diplomas and degrees as Americans generally equate them. German educators "officially" equate the thirteen-year Abitur with fourteen years of education in the American system. However, there were Germans at the Conference who could accept the American timetable, and Americans who could accept the German equivalences as presented by Dr. Rotter. Conferees reached no conclusions on these matters, but amicably agreed to disagree.

What was not discussed at the Conference was where American admissions officers should place the graduates (Graduierten) of the newly established Fachhochschulen. These students pursue courses of three years duration (220 days a year) after twelve years (at least) of primary and secondary education, a minimum total of fifteen years.

Dr. Ulrich Littmann's description of the Fachhochschulen, given in his booklet An Introduction to the Confusion of German Education (pp. 16-17), helps us to understand and evaluate the recently established Fachhochschulen:

> Their current structure is that of a "pocket university;" a president/vice-president, professors; middle layer, students--everything and everybody is there, except the principle of scholarly penetration or the unity of research and teaching as practiced at the university. Therefore, everything appears as one size smaller than it would exist at the university. The professors do not have the Habilitation, the member of the middle layer often times has a degree from the Fachhochschule rather than from a university, and the students would come mostly from sub-gymnasium schools (the Fachoberschule). Its degrees (Ing. grad., Betriebwirt grad.) use the term graduiert which leave(s) them as sub-university, non-academic degrees within higher education--the tertiary schools.
>
> Reaching specific levels of education/training at a Fachhochschule, entitles the student to change to a university.

During the Conference, Littmann added these explanatory comments to the term graduiert (taken verbatim from the Conference tapes):

> Graduiert has a recent connotation, and, in fact, has a number of connotations. Graduiert recently is being applied to those who have successfully completed the first terminal examination, Diplom, Staatsexamen, Magister Artium and so on. Post-graduiert should mean anything that comes after the successful completion of the first terminal examination. At the same time, the term graduiert also refers to someone who has successfully completed the Fachhochschule, or occasional college. He is called graduierter Ingenieur. This term is being discontinued now, but for all purposes the persons the Fulbright-Kommission is going to submit to American universities this year (1972-73),and in the coming years, will have the term graduiert.

On the American-designed timetable the *Ing. grad*, the *Betriebswirt grad.*, and so on, of the *Fachhochschule* would fall at the fifteenth year. This would equate with the *Zwischenprüfung* or the *Vordiplom*, which, Dr. Rotter claimed, was the equivalent of an American undergraduate degree. Generally, Americans probably would not agree with Rotter's evaluation, but would say that those who had passed the *Vordiplom* or *Zwischenprüfung*, or who held a degree from a *Fachhochschule*, would have to do an additional year of study at the U.S. undergraduate level in order to have the equivalent of an American baccalaureate degree. As stated, this problem was not really discussed or resolved at the Conference. It will remain for others to make a decision on the matter.

TABLE III

Development of the Average Times Spent by Students at Universities and Technical Colleges

Branch of Study	Average number of study terms (excl. examination term)		
	1960	1963	1965
All branches of study	9.7	10.4	10.8
incl.:			
State examination for teacherships at grammar schools in arts subjects	10.3	11.4	11.8
Jurisprudence	8.3	9.2	9.5
Political economics	9.0	9.9	10.1
Industrial management	-	9.5	9.8
General medicine	11.3	11.4	11.6
Mathematics (examination conferring right to hold a diploma)	12.0	12.2	12.3
Physics (examination conferring right to hold a diploma)	12.6	12.8	13.1
Chemistry (examination conferring right to hold a diploma)	12.9	12.3	12.5
Structural engineering	11.5	11.7	11.5
Mechanical engineering	10.6	11.4	11.7
Electrotechnics	11.1	11.5	11.5

Source: *Facts About Germany*. Press and Information Office of the Federal Republic of Germany, Bonn, 1972.

SECTION IV

EDUCATIONAL REFORM

I. INTRODUCTION

Educational reform in the Federal Republic was discussed frequently during the German-American Conference on Educational Exchange. However, most of the discussion centered on changes taking place within the system at the tertiary level. While changes at this level are of the utmost importance, there are equally important changes occuring at the primary and secondary levels. Some of these changes will ultimately effect the credentials which German students will present when they apply to foreign institutions of higher learning. Therefore, it is essential that in this section we consider reforms at all educational levels, especially if they are likely to eventually effect the product of the German school system.

II. EDUCATIONAL REFORM AND THE POST-WAR PERIOD

At the end of World War II, Germany was in ruins and was occupied by the Allies, who had grandiose and idealistic plans (many of which they could not have implemented at home) for the reform of German social and political institutions. However, history and the German leaders conspired to bring most of these plans to naught. Consequently, in the post-war period, Germany proceeded to re-establish those social and political institutions with which the people had been familiar during the Weimar period (1919-1933). As a result of these policies, writes Littmann, "In the mid-50's Germany had the most modern obsolete universities."[1] Nevertheless, the decision to go with the old and familiar institutions seemed to be justified as Germany made a remarkable recovery from the effects of the war. However,

> As society changed in the post-war Federal Republic, as industry, the polity, the army and the family all began to abandon modes of authority based primarily on duty derived from status, and turned to consensual forms, higher education institutions in particular came under severe pressure to reform their practices.[2]

Now, as Roland Mohrmann of the DAAD said during a speech delivered at the April 1973 national meeting of the American Association of Collegiate Registrars and Admissions Officers, "The current reform will have the most far-reaching consequences of any educational reform in Germany since 1809." We will now consider many of these reforms, beginning with the pre-school level and continuing on through the system. It is important to remember that some of the reforms are simply in the planning stage, while others are in the experimental stage, and still others have already been incorporated into the system.

III. PRE-SCHOOL EDUCATIONAL REFORM

In Germany, as elsewhere, there has been an increasing recognition among educators that the early years of a child's life are decisive for developing learning and speaking abilities, and the creative imagination. Therefore, there is general agreement that Kindergarten education--for ages 3-5--must be greatly expanded, especially for those children who are socially deprived. Recently the German Education Council[3] proposed establishing 100-120 special Kindergärten over the next five years. The reasons for this recommendation were as follows:

1) The nuclear family child needs the experiences which early schooling provides.

2) Research shows the child age 3-5 can benefit from schooling.

3) Pre-school education should help to eliminate educational inequalities.

4) If children 3-5 are in school, mothers can work.

While there is little disagreement in Germany that more pre-school education is needed, the providing of it is not without its problems. For if pre-school education is to be doubled by the 1980's--to 70% of the 3-5 age group, there will be the monumental problems of providing funds, facilities, and staff. Beyond this, Kindergarten education has traditionally been under the sponsorship of welfare organizations (approximately 75%); thus, if the Land (state) is to become increasingly involved in pre-school education, delicate questions arise as to who will finance, administer and supervise the system.

IV. PRIMARY SCHOOL EDUCATIONAL REFORM

In the Federal Republic, children are obliged to commence schooling after their sixth birthday. However, since children are only admitted to the Grundschule (Basic School) once a year, many children who are six but not yet seven are not in school. A 1955 study showed that only 28.6% of the six year old students were in school. Therefore, it is proposed--and seemingly there is little disagreement among educators about this--that the compulsory beginning school age should be moved up to age five.

The Grundschule is of four years duration and presently has a common curriculum for all. Reformers propose that the curriculum be revised to serve the needs of each child, and that teachers should be trained to adapt such a curriculum to the child. It is argued by reformers that if children are to have true equality of educational opportunity, they must have a curriculum suited to their individual abilities and interests.

V. SECONDARY SCHOOL EDUCATIONAL REFORM

Introduction

As indicated previously, all German children attend a common primary school for four years, grades 1 through 4. Then--at age 10--most of them are sorted into one of three types of secondary schools, the Gymnasium, the Realschule, or the Hauptschule. The effect of this sorting procedure is described in the following passage:

> Within the tripartite secondary school system, the greatest prestige attaches to attendance at the modern languages and natural sciences Gymnasien; less prestige to other types of Gymnasien; still less prestige at Realschulen; and, of course, no prestige at all is attached to attendance at Hauptschulen. This hierarchy of esteem mirrors the value system in society at large, in which the most abstract work, demanding the highest levels of linquistic and mathematical skill, is ranked topmost in prestige; the applied fields come next; and practical work that is often associated with a certain amount of physical labor is regarded as, at best, an unfortunate necessity. The allocation of resources reflects these differences of prestige: more money per pupil is spent in educating students in the higher prestige types of schools than in the lower prestige types, teachers in the Gymnasium have had much longer periods of training than teachers in the other secondary school types, and class sizes are smaller. Not only do the students from wealthier homes have more public money spent on their secondary education, but each such student tends to receive a larger total of public educational resources over his school career than do children from lower social levels, because length of study is positively related to school type and social class level.[4]

Secondary Level I

To correct the alleged inequities of the present secondary system, a number of reforms have been proposed; those set forth by the Education Council (Bildungsrat) include the following:

1. Secondary education should be divided into two levels, Secondary I (grades 5-10) and Secondary II (grades 11, 12, 13);

2. Full-time compulsory schooling should be extended to ten years;

3. The curriculum at all secondary school forms should emphasize science and academic instruction; beyond grade 7 the curriculum should allow differentiation according to the individual student's aptitude and attainment;

4. Those who successfully complete ten years of schooling (Secondary Level I) should be awarded an appropriate certificate--Abitur I; on the basis of this certificate, the type of education to be pursued in Secondary Level II should be determined;

5. A "compulsory" eleventh year of education should be taken either at school or at another suitable establishment, for example, an industrial enterprise or supra-firm;

6. Grades 5 and 6 of Secondary Level I should be "orientation grades" which "prepare pupils for the possibilities of selection and differentation in the ensuing years;" the important thing here is that these grades should not be tied to certain forms of school or educational courses.

The Comprehensive School (Gesamtschule)

The Education Council (Bildungsrat) also is urging experimentation with the comprehensive school (Gesamtschule). However, the Council suggests that the comprehensive school be so organized that it does not unduly disturb the three-part vertical structure which has traditionally been typical of German education. In other words, while organizationally and physically the schools should be integrated, they should also allow for differentiation where pupils are concerned. Some German educators are proposing a comprehensive secondary school which is structured horizontally as the Grundschule is, but--except on an experimental basis--its realization is in the distant future.

At the end of 1971 there were 116 comprehensive schools in the Federal Republic; they were attended by 38,000 boys and 25,900 girls.

The Training and Compensation of Secondary School Teachers

Another important proposal for reform relating to the secondary level is that which deals with the training and compensation of secondary teachers. Presently training and pay is related to the type of secondary school in which the teacher performs his or her duties. Educators are recommending that teacher preparation and pay be related to the level of which one teaches and not to the type of school at which the teacher is employed.

Summary

If the proposals of the Education Council (Bildungsrat) for Secondary Level I are ultimately adopted by the various states (Länder), all successful students within the system will have (1) an equal amount of schooling (10 years), (2) a certificate (Abitur I) providing similar qualifications, (3) a curriculum better adapted to their individual needs and talents, (4) a better opportunity--through the orientation grades-- to gain the type of secondary schooling best suited to their separate abilities and interests, and, (5) teachers throughout the system who are more equally trained and paid.

Secondary Level II

Schools Comprising Secondary Level II. In the proposals for secondary school reorganization, Secondary Level II will include the following:

1) the *Gymnasium*, grades 11-13;
2) vocational schools which lead to the university, for example, the *Fachoberschulen* and the *Kollegs*;
3) full-time vocational schools in the vocational education sector, for example, the *Berufsfachschulen*; and,
4) vocational training programs offered by firms and supra-firms, together with the part-time vocational schools (*Berufsschulen*), the so-called "dual system."[5]

Admission to Secondary Level II Schools. If the reform proposals of the *Bund-Länder-Kommission für Bildungsplanung* (Federal-State Commission for Educational Planning) are realized, admission to *any* of the above institutions will be possible if the student completes grade 10 and is in receipt of the school-leaving certificate awarded upon successful completion of Secondary Level I.

The Objects of Reform. Reform thinking at Secondary Level II is aimed at

> ...providing wider possibilities of emphasis according to /the student's/ inclination and attainment in all school forms through new curricula, forms of organization and qualifications to improve the academic level and at the same time do away with channeling future openings through attendance at any chosen school.
>
> This means on the one hand that the possibilities of acquiring university qualifications in the vocational education sector will be expanded, and, on the other hand, that more attractive alternatives to university study will be created for the *Abiturienten* of the *Gymnasium*. This offers simultaneously the need and opportunity of ending the traditional prestige difference between so-called general education and vocational education.[6]

Eliminating the Grade Principle. Another interesting proposal for reform at the Secondary II level is the elimination of the grade principle. If this recommendation is adopted, the completion of a Secondary II course of study will depend--not on the duration of studies--but on the qualifications which a student seeks. In this connection, the Educational Council (*Bildungsrat*) recommends that Secondary Level II courses of study be of two or three years duration, depending on qualifications sought.

The Federal Government--in relation to this issue--strongly favors that the study-oriented *Abitur II* be a two-year course, replacing the present one of three years' duration. This recommendation is aimed at reducing the high average age of the present day *Abiturienten*. By contrast, those seeking vocational qualifications under this flexible organizational structure may be given additional time to complete Secondary Level II.

The Gesamtshule at Secondary Level II. Needless to say, proposals for Secondary Level II reform are being made which would organizationally integrate the Secondary Level I and II schools into *Gesamtschulen* (comprehensive schools). In this area an intriguing proposal is one which would result in the upper levels at the *Gymnasien* (grades 11-13 in the present system) being separated from the lower levels (grades 5-10 in the present system) with the upper levels then being combined--through cooperation or integration--with vocational education schools at the same level, for example, with the *Fachoberschule* and the *Berufsfachschule* (full-time vocational school). However, critics of this proposal fear that if it is implemented the *Berufsschulen* (part-time vocational schools) might be isolated, with the result that they would be left behind as reforms produced a more efficient and effective school system. To guard against such an eventuality, far-reaching changes are being proposed for the vocational education system which would substantially change it. One of the significant recommendations for change is one which increases the possibilities for the *Abitur II* to be gained in the vocational education sector.

The "Berufsschule" and Educational Reforms. As mentioned on page 28, the increasing trend toward enabling the vocational student to enter institutions of higher education should be watched closely since--in the future--it may have a decided effect on the admission of German students to foreign universities. Those who study the German educational system should be alert to possible curriculum changes in the part-time vocational school area, which enrolls--by far--the large majority of German secondary level students. As noted previously (see page 15), in the Federal Republic in 1969 there were 1,300,000 students attending some 1,756 vocational schools (*Berufsschulen*); this number of students constituted approximately 60% of all persons in the sixteen to eighteen year old age group. However, there are reform plans which call for the 60% figure to be reduced to roughly 37% by 1985. This reduction in number in the *Berufsschulen* should not be interpreted to mean that vocational education-combined-with-practical-training (the dual system) is being downgraded in the German system. Even with a reduction in numbers, the *Berufsschulen* (part-time vocational schools) will have--by far--the largest number of students enrolled in the secondary school sector. However, with the numbers of *Berufsschulen* students decreasing, there will be an increasing number of students enrolled in other institutions within the secondary education sector, largely in the full-time vocational education institutions, the *Berufsfachschulen*. Presently the latter enroll approximately 14% of the relevant age group; plans call for an increase to 22% by 1985.

Regarding enrollments in the entire Secondary Level II sector, the Science Council (*Wissenschaftsrat*) estimates that by 1980 45-55% of the relevant age group will complete upper secondary education, and that 25-30% will continue their education, with 20-25% going into employment with training concentrated mostly in terms of their jobs.

Why Reform the "Berufsschule" (part-time vocational school)

A brief quotation will answer the question as to why the once excellent and widely acclaimed "dual system" of German education needs reforming:

> It is now widely acknowledged that this system /_see pp. 15-16 of this report/, excellent as it may have been, is no longer fully appropriate to a modern industrial society. In particular, as there are some 600 recognized qualifications each covering a narrow field, the flexibility and mobility which a rapidly developing industrial sociaty demands, are made impossible. Specific skills soon become obsolete, so the need is for a broader vocational training, permeated with theory and providing the young worker with mastery of the basic principles used in a variety of occupations...the need /_is_/ to have a labor force that is flexible, mobile, attuned to innovation, and alert to the possibilities of adapting the techniques of one field to the requirements of another...the goal of good education in modern society is ultimately the development of the powers of the individual to live a creative and self-directed life; it is not simply the training of smoother, more valuable cogs to fit the giant industrial-commercial machine...[7]

Summary of the Aims of the Federal-States Commission for Educational Planning as Conceived in October, 1971

The following summarizes most--but not all--of the reforms which have been noted to this point, plus a few which will be discussed in the section on Educational Reform at the Tertiary Level:

1. Increased efforts in the area of elementary education.

2. Additional educational facilities for five year olds.

3. Combination of the first two years at school in the Secondary Level I (grades 5-10) to form a so-called "orientation stage" (Förderstufe).

4. Scientific grounding of the basic instruction, and increasing differentiation in choice and attainments in the Secondary Level I area.

5. Offer of a qualifying terminal report in the Secondary Level I area for all students.

6. Reorganization of the Secondary Level II with the aim of attributing equal value to vocational and general education.

7. Development of a system, allowing for easy transition, of graduated and interrelated courses of university studies and final reports.

8. Increased provision of places for students.

9. Development and improvement of adult and further education to become a special domain in the educational field.[8]

VI. EDUCATIONAL REFORM AT THE TERTIARY LEVEL

Introduction

The German university (Universität) as it presently exists can best be understood if one studies the history of Germany and its social institutions since the Middle Ages. Short of this, to understand the present day university in Germany, one must familiarize himself with the development of German universities since their reformation in the early 19th century, a reformation which came about largely through the influence of Wilhelm von Humboldt (1767-1835). This Prussian statesman and social politician is commonly hailed as the "Father of German higher education." Berlin University, founded in 1810, now located in East Berlin, served as the model for von Humboldt's university reform.

The Reform University

Prior to the 19th century, the German princes with absolute power had used the universities for their own purposes, largely as vocational training centers for those entering public service, particularly doctors and lawyers. Gerhard Hess briefly comments on how von Humboldt and others interested in reform influenced this situation:

> University teachers and students [prior to reform] were subject to strict supervision. The teaching was encyclopedic and was confined to information of strictly practical value. The plans for reform prepared by Wilhelm von Humboldt and others gave the universities the task of teaching students to think for themselves and to enable them to run their own lives rather than of cramming them with the maximum factual knowledge of the time. His ideal type of university provided for the union of teaching and research. The international reputation of German universities in the nineteenth century was the product of this double function, that of being both centers of research and also institutions for the training of civil servants. They continued to be financially dependent on the State, but they were allowed to regulate their own internal affairs. The appointment of professors, however, remained strictly the prerogative of the State. The main emphasis was soon placed on the research undertaken by the professors. The German concept of "Universität" was replaced by increasing specialization, and the universal scholar was superceded by the expert.[9]

Another writer comments on the changes which took place in the university sphere after 1810:

> No longer [after Humboldt's reform] was it [the university] to be merely a vocational training center, but a place of scientific study devoted to no particular purpose in which teachers and taught joined forces to form a team. No longer was the student primarily to be crammed with the available knowledge of his day, but make use of his mental powers, i.e., learn to work scientifically independently and of his own accord...The Humboldt university therefore envisaged the oneness of research, learning and teaching; it was to become a research center and training institution for leading positions in State and society.[10]

Basically, von Humboldt's concept of the university has prevailed to this day; however, as we shall see, it is presently in a state of transition.

The "Ordinarius" (full professor)

In due time von Humboldt's reform university became noted for its academic excellence, its jealously guarded autonomy, its elitist character, and its "extraordinary dominence by the tenured, full professor, the so-called *Ordinarius*...who presided over his institute like a prince over a small fief, subject to no control from above, whether from ministry, rector, senate, or faculty".[11] The university *Ordinarius*, nominated by the State Ministry of Culture, after having been proposed by his colleagues, "...was subject neither to dismissal nor to any kind of instructions whatsoever. He himself planned the teaching and research program of his chair or institute."[12] In addition, by virtue of his position the *Ordinarius* was the *ex officio* director of a university department, normally referred to as a seminar, institute or clinic, with all of its staff, libraries, technical equipment and so on, which he occasionally had to share if a colleague of equal status existed. The *Ordinarius* was also the direct recipient and administrator of an annual fee which paid for the teaching and research activities of his department.

The Power Structure in the Traditional University

Again, Gerhard Hess comments--this time on the origins and characteristics of the traditional university, its structure, and the power of the *Ordinarien* within that structure:

> This system of institutes is peculiar to German universities. It developed from a patriarchal and individualistic form of society, and was at once the cause and preconditioning of the great achievements of German scholarship in the nineteenth and early twentieth centuries, especially in the fields of natural sciences and medicine. The distinctive feature of the system is the multiplicity of responsibilities and competences which it creates within the university. One man, who as full professor [the *Ordinarius*] is a member of the faculty and of the university senate, which consists of all full professors and certain representatives of the lower

strata, is at the same time the director of an institute and an immediate representative of the State. Thus an assembly of professors who are individual directors of institutes, often constitutes a meeting of mutually antagonistic particular interests over which the university as a corporation has little or no control or authority.

To put it in perhaps somewhat extreme terms, one might say that in the traditional German university actual power increases constantly as you go down the theoretical scale of power, from the nominal head of the university, the Rector, via the senate and the faculties to the individual director of a university institute, and similarly, the range of jurisdiction also constantly decreases as you go from the director of an institute via the faculties and the senate to the Rector. This is not a paradox. The jurisdiction of the faculty, which in theory is empowered to make decisions on all questions falling within the category of self-administration, is in practice hamstrung by the particular decisions made by the directors of the institutes of which it is composed. The Small Senate is in theory the most senior committee within the university, but its most influential members are the deans of the faculties, and thus its decisions largely depend on the views of the faculties. The Rector, who is the titular head of the university, can cast a vote in meetings of the Rectors' Conference, an assembly representing all German universities, but only on questions on which his senate has already made a decision or has expressly empowered him to make a decision on their behalf. Hence the Rectors' Conference is almost exclusively a forum for discussion and at the most has a certain moral authority but no actual power.[13]

The Problems of the Traditional Universities

The traditional university--inspired by von Humboldt--served Germany exceedingly well for over 150 years, but it was a university designed for the elite and for small numbers. What von Humboldt and those who followed him could not possibly foresee were the social, political, and economic conditions which were to prevail in Germany after World War II, conditions which were to produce large numbers of students which higher education--as structured--was not prepared to handle. (See Table IV, page 48.) As a consequence of the deluge of students with which the German universities were confronted beginning in the middle 1950's, severe problems began to arise. Lecture rooms, seminars and laboratories became terribly overcrowded. As a matter of fact, it became necessary to limit enrollments in certain faculties. (See Numerus Clauses, pp. 21-22.) An unfortunate corollary of the overcrowding was that the time required to earn a degree was unduly extended. This simply compounded the problem of overcrowding. (See Table III, p. 34.) However, the problem of numbers was not the only problem with which the traditional type university was confronted. Along with that problem came others, namely, that the governance of the university be democratized, that the character of teaching be reformed, and that subjects and the curriculum be expanded.

As far as numbers was concerned, the Federal and State governments made a valiant effort to deal with this problem. (See Higher Education, page 19.) Between 1960 and 1970 thirteen new centers of higher education were founded, including ten universities. The amount of money spent on education was increased dramatically. Between 1961 and 1967, the total expenditure of the Federation and the States (Lander) on universities and colleges rose 146.5%, from 1,700 million DM to 4,200 million DM, while during the same period--1961-67--the number of university students increased only 29.5%. Even so, the problem of providing places was not solved, and the Federal and State governments are faced with even greater expenditures. It is estimated that between 1970 and 1975 the expenditures of the Federation and the States for extending and improving the universities and colleges will double, from 2,000 million DM in 1970 to 3,900 million DM in 1975.

It is obvious from the foregoing that a monumental effort has been and is being made to provide places for students in institutions of higher learning, but what about the matters concerning governance, new subjects and curriculum? Here it is said, progress has been slower, due largely--allegedly--to the opposition of the Ordinarien, the full professors, who had governed the universities for 150 years. The following quotation sheds light on this situation:

> Reforms to meet these demands were proposed, and in some cases partially instituted in a few universities, but were seriously delayed by the resistance of the professors who would not concede that their virtually untramelled power over assigned funds, staff, students, and curriculum was now outmoded. Indeed, most Ordinarien appeared to be incapable of recognizing any legitimacy at all in the various claims made upon them by the young. The professors defined the university as, in its essence, simply themselves. The Rector, whom they elected from among themselves for a term of one year only, was regarded as a figurehead, a primus inter pares, properly empty of any power save that which they gave him, and which they could take back at will. The professors commanded all the money, all the prestige, all the power. A professor holding the chair at a university was expected to define the subject in his own terms, and in his alone. In the extreme case, a subordinate who thought, taught, or wrote differently, might take his leave, for he had demonstrated his unwillingness to belong to the "school" that the professor had established or represented. Assistants, even Dozenten, were the professor's men, to be made or broken as he wished. Such was the reality of Lehrfreiheit /freedom in teaching/.[14]

What of the Future

The problems we have pointed out have not been solved, and, in some instances, they are intensifying. Radical solutions are being proposed to ameliorate some of the crises. For example, one German politician has recently (1973) suggested that "surplus" German students be sent to the United States (where there are empty classrooms) to be educated, at the expense of the German government. "Solutions" of this sort give evidence of just how desperate the higher education situation is in Germany. No one is certain as to what the future of German tertiary education is. The reforms being proposed are varied and many, and it is suggested that the reader carefully read Ulrich Littmann's comments on the university (see Appendix C) to gain a better perspective on what is happening in the German university today.

> The major problem now facing universities and other institutions of higher learning is to find the path that will take them safely into the future. They must succeed in steering between now generally accepted demands for fundamental changes and the surging tides of anger, violence and illiberalism, every whit as offensive as the old authoritarian university, that threaten to sweep some universities completely away...The universities of the F.R.D., then, have entered the 1970's caught between unenviably difficult alternatives: they need to go fast along the road to change, but not too fast...and, while preserving the old excellence, they need desparately to modernize and create anew.[15]

The Federal Government's Reform Proposals

It is appropriate to end this section on reform by setting forth the proposals of the Federal Government on reform, based largely on the recommendations of the Education Council (Deutscher Bildungsrat) and the Science Council (Wissenschaftsrat); they are:

- universal pre-school provision for three and four year old children whose parents desire to enroll their children, and reduction at the elementary school starting from six to five years old;

- an overall internally differentiated system of integrated comprehensive schools, indicating an explicit break with the traditional tripartite school system;

- a system of integrated comprehensive institutions of higher education, thus breaking with von Humboldt's concept of universities as schools for the cultivation of the elite.

In the opinion of the Federal Government, these general principles should govern reform:

- education should relate itself to the new social, economic, and political conditions of modern Germany;
- education should maximize learning opportunities for all segments of the population, young and old;
- education should eliminate those inequalities which exist in the present system which militate against certain groups within the population;
- education should remodel the curriculum so that it will serve the individual needs and talents of each student.

The New Structure

When and if the proposed structural reforms--generally accepted--are implemented, the new system in the Federal Republic of Germany should bear a close resemblance to the structure to be found in Figure II below.

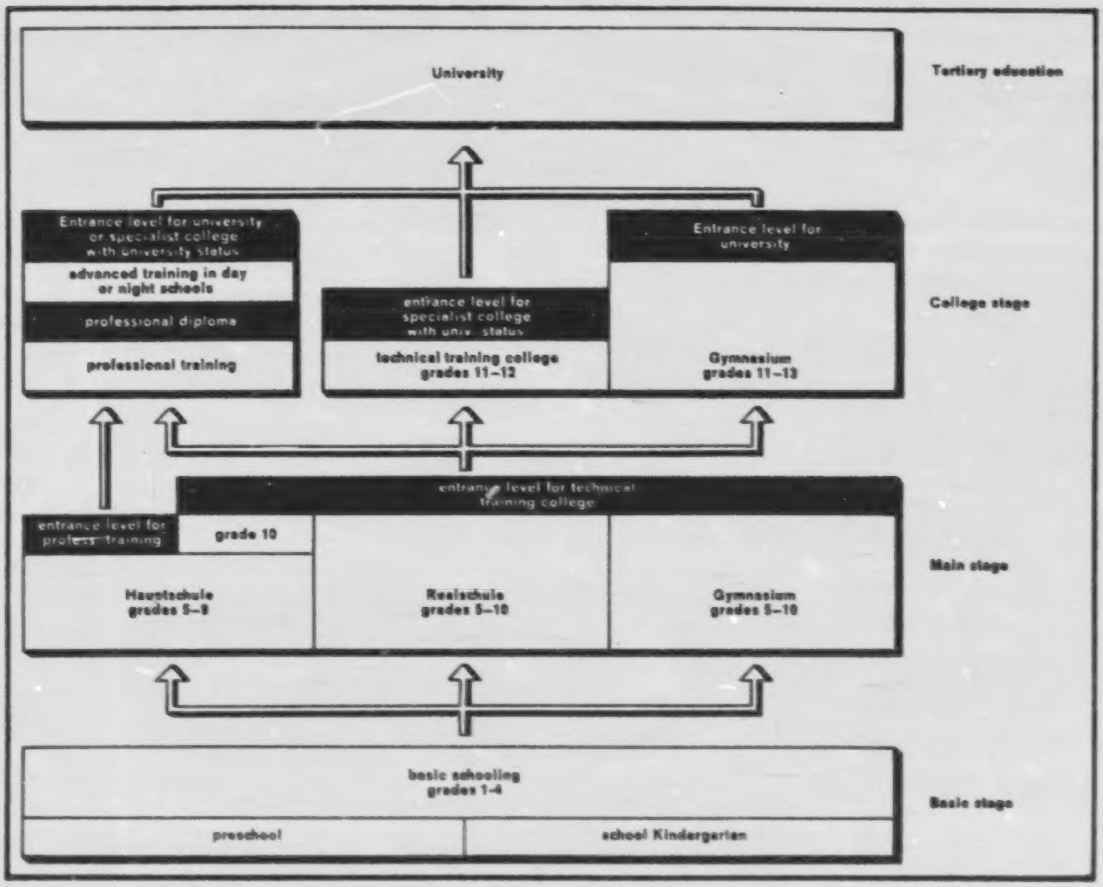
University
Tertiary education
Entrance level for university or specialist college with university status
advanced training in day or night schools
professional diploma
professional training
entrance level for specialist college with univ. status
technical training college grades 11–12
Entrance level for university
Gymnasium grades 11–13
College stage
entrance level for technical training college
entrance level for profess. training
grade 10
Hauptschule grades 5–9
Realschule grades 5–10
Gymnasium grades 5–10
Main stage
basic schooling grades 1-4
preschool
school Kindergarten
Basic stage

FIG. II

Source: Meet Germany. Atlantik-Brucke, Hamburg, April, 1971.
Title: A Possible Future School Structure

TABLE IV

STUDENTS AT UNIVERSITIES, COLLEGES AND ENGINEERING COLLEGES

Type of institution	Study year	Total, in 1,000s	of which, Germans, in 1,000s	of which, females, in 1,000s
Universities & institutions of similar status1)	1955	130	123	18.0
	1960	206	186	21.3
	1965	253	231	21.2
	1968	288	266	22.8
Teacher-training colleges2)	1955	15	15	58.1
	1960	32	32	62.4
	1965	46	46	61.6
	1968	66	65	63.8
Colleges of art music & sports	1955	6	6	41.5
	1960	8	7	40.7
	1965	9	8	41.4
	1968	9	8	41.7
Universities & colleges altogether	1955	152	144	23.2
	1960	246	226	27.8
	1965	308	284	28.2
	1968	363	339	31.1
Engineering colleges	1957	36	35	0.9
	1960	44	43	1.1
	1965	61	58	1.3
	1968	63	60	1.6

1) Universities, technical colleges, academies with university status, philosophical-theological and ecclesiastical colleges minus primary, intermediate and special school professorships and vocational school professorships (trade school professorship).

2) Incl. persons training for a post at primary, intermediate, special and vocational schools, universities and technical colleges.

SOURCE: Facts About Germany
Press and Information Office of
the Federal Republic of Germany,
Bonn, 1972

POSTSCRIPT

Even though the German-American Conference took place in June, 1972, the materials contained in the report are current. There are several reasons why this is so:

1) educational systems do not change rapidly, nor are they easily reformed; therefore, the changes and reforms discussed during the Conference are still--generally speaking--live issues among German educators; and,

2) the Rapporteur has augmented the report with recent materials dealing with German education and reform.

The Rapporteur has not seen the recently developed "overall educational plan" (Bildungsgesamtplan) nor the "university framework law" (Hochschulrahmengesetz) passed by the cabinet on August 29, 1973, and presently a matter of parliamentary and public discussion. However, it is our understanding that the Hochschulrahmengesetz includes the following recommendations:

1) the amalgamation of various types of universities into comprehensive universities;

2) the safeguarding of university research against separation tendencies;

3) the reorganization of study courses and examinations;

4) the facilitating of admission where faculties are overcrowded, and where students are "discriminated" against because of social and economic status; and,

5) the reorganization of university administration to include all segments of the university community in the decision-making process, and to rid the university structure of traditional hierarchical authoritarian relationships between members of the academic community.

Educational reform in Germany is an on-going process which shall persist for years to come. It will tax all of us to keep pace with the changes which are being instituted.

Chicago, 1974

SECTION V

GLOSSARY OF GERMAN ACADEMIC TERMS[1]

ABENDGYMNASIUM: Part-time evening schools which enable people with a job to gain the equivalent of the Abitur. Preconditions for admission are to complete vocational training, or in lieu of that, to be regularly employed for a minimum of three years. In addition, one must be at least nineteen years of age and gainfully employed, except for the last year and a half of what is normally a three-year course. (See Gymnasium.)

ABENDREALSCHULE: A part-time school which takes employed people up to Realschule qualifications. (See Realschule.)

ABITUR OR REIFEPRÜFUNG: A written and oral examination which comes at the end of studies in the various Gymnasien, normally the thirteenth year. Every examinee, under supervision, writes a paper in four subjects, which always includes German, mathematics and a foreign language, plus a subject which depends on the type of Gymnasium the examinee attended. The oral examination covers the same subjects, but also includes civics and another subject selected by the examinee. In some German states (Länder), one of the four main compulsory examinations may be taken at the end of the twelfth grade (Vorabitur). The certificate awarded to successful Abiturienten is known as the Reifezeugnis, Reife meaning "maturity" or "fitness," and Zeugnis meaning certificate. The possession of the Reifezeugnis enables the German student to enter all branches of higher education, as his constitutional right.

ABSCHLUSSZEUGNIS: Certificate awarded at the completion of secondary school.

AKADEMISCHES AUSLANDSAMT: The university office which is responsible for all international relations. Its functions include advising foreign students on admissions, studies, and general problems relating to university life. This office is normally the point of contact for relations with foreign institutions desiring exchange agreements or similar affiliations.

AKADEMISCHE FREIHEIT: Refers to 1) the university's freedom of self-administration; 2) the faculty's freedom of self-determination in matters of teaching and research; 3) the student's freedom to choose a university and to determine his own course of study, within restrictions imposed by the basic demands of his chosen field (Lernfreiheit). (FP)

AKADEMISCHES VIERTEL: University-scheduled events, including the academic courses; traditionally begin 15 minutes later than the hour announced. This "academic quarter" is sometimes, but not always, indicated by the letters c.t. (cum tempore). Events which begin promptly at the time stated are always indicated by the abbreviation s.t. (sine tempore).

ALTSPRACHLICHES GYMNASIUM: See *Gymnasium*.

ANFÄNGER: Beginning students.

ASSESSOR: A civil service candidate who has completed the required preparatory service terms as a *Referendar*, has completed the second state examination (*grosse Staatsprüfung*), and has been admitted as a civil service employee on a probationary basis. (FP)

AUFBAUZUEGE: Extension courses. The extension courses are special forms coming after the 7th or 8th grade whereby a student may transfer from the *Hauptschule* to the *Realschule* or *Gymnasium*.

AUSBILDUNG: Training.

AUSLÄNDERKOLLEG: A special preparatory course for foreigners who plan to enter a school of engineering (*Ingenieurschule*). The course is intended to impart the knowledge of German needed by the foreign applicant for his specialized studies, and, in addition, to eliminate any deficiencies in the areas of mathematics and the sciences.

BELEGEN: The formal signing-up for courses within a certain period at the beginning of the semester (*Belegfrist*). Courses are entered by the student in his *Studienbuch*, which is then handed to the *Quästur* to establish the amount of tuition. (FP)

BERGAKADEMIE: School of Mines.

BERUFSAUFBAUSCHULE: A vocational extension school which provides general or subject-oriented education going beyond the objectives of the vocational schools. The course lasts at least one school year with daily instruction, or longer if instruction is not given daily. The *Berufsaufbauschulen* lead to better job opportunities, usually those which require a *Realschule* school-leaving certificate, or its equivalent, and qualifies successful candidates for admission to the *Fachoberschulen*, *Höhere Fachschulen* or *Kollegen*. The course at the *Berufsaufbauschule* concludes with an examination leading to the *Fachschulreife*. (See *Fachschulreife*.)

BERUFSFACHSCHULE: A full-time vocational school, a continuation of the *Hauptschule*, which prepares students for their future occupations, or serves as the basis for further vocational training. It aims at enhancing the general education of the student. Courses usually last twelve months. Vocational instruction and practical training are combined in the school itself. Various types of *Berufsfachschulen* are clerical and commercial, industrial and technical, home economics, nursing, social welfare, agriculture, horticulture, etc. Successful completion of some of the courses e.g. the commercial/clerical, leads to the certificate known as the *Fachschulreife*, which grants rights equivalent to those of the *Realschule*, which German educators equate with U.S. high school graduates.

BERUFSGRUNDBILDUNGSJAHR: The basic occupational training-year.

BERUFSGRUNDSCHULE: An experimental tenth full-time school year to provide a broad basic training within the framework of the appropriate occupational structure. After successfully completing this tenth year, a student may enter a Fachoberschule.

BERUFSSCHULE: A part-time vocational school which follows the last grade (9th) of the Hauptschule. Attendance up to age eighteen (or termination of apprenticeship) and at latest to age twenty-one is compulsory for all those not enrolled in a full-time school beyond age fourteen. Students normally attend these schools one or two days a week and receive up to twelve hours of academic instruction each week over a three to three-and-one-half year period of training. Berufsschule instruction completes and reinforces practical training gained in industry, trade, commerce, agriculture, home economics, mining, etc., by instruction related to the future job. Upon completion of the Berufsschule, students are awarded a certificate, usually without examination. This certificate, together with the certificate awarded upon the completion of practical training, is required for admission to the Fachschulen.

BILDUNG: Education.

BUNDESASSISTENTENKONFERENZ: Association of University Assistants.

BUND-LÄNDER-KOMMISSION FÜR BILDUNGSPLANUNG: Federal-State Commission for Educational Planning. This Commission was founded in July 1970 to help implement the May 1969 change in the Federal Constitution, whereby the Bund was authorized to undertake educational planning jointly with the Länder. This Commission is responsible for the planning and development of education at all levels, including proposals for its financing. There are eighteen members on the Commission, eleven from the states (one each) and seven from the Federal Government; however, the latter also have eleven votes, making a total of twenty-two. Decisions are reached by a three-fourths vote of the members. However, only those states (Länder) who vote for a proposal are bound by it.

CHANCENGLEICHHEIT: Equality of educational opportunity.

CHEMOTECHNIKER-FACHSCHULEN: Chemical Technician School. Education in this school is similar to that in the Technikerschule. (See Technikerschule.)

CONSILIUM ABEUNDI: Suspension or dismissal of a student from the university.(FP)

DEKAN: Faculty dean of a Fakultät (School), usually elected from among the Ordinarien (full professors) for one year. The office he holds is das Dekanat. (FP)

DEUTSCHER AKADEMISCHER AUSTAUSCHDIENST: (DAAD): German Academic Exchange Service. Founded in 1925 as an instrument of academic self-administration, it serves to maintain academic contacts between Germany and other countries by exchange of students and professors, mostly on a scholarship basis. It also provides for technical and financial assistance in trainee programs, UNESCO activities and information services for German and foreign students. (FP)

DEUTSCHER BILDUNGSRAT: German Education Council. Founded in 1966, the Council consists of two commissions, the Bildungskommission (Education Commission) and the Regierungskommission (Government Commission). The Council members are selected by the Bund (Federal Government), the Länder (states), and civic organizations. The Education Commission is not confined to educational experts, but also includes representatives of interest groups, for example, trade unions and churches. The explicit charges of the Council are:

- to draw up plans outlining needs and development in the educational systems in accordance with the nation's cultural, economic and social needs;
- to make proposals for restructuring the educational systems;
- to assess the financial resources required;
- to make recommendations for long term educational planning. (RNPE)

DIÄTENDOZENT: An instructor after Habilitation (Privatdozent), appointed on a temporary basis as a civil service employee; in this capacity, he receives a steady salary as well as lecture fees. (FP)

DIPLOM: A (pre-doctoral) degree granted in areas of study where the academic work is not concluded with Staatsexamina or the Magister Artium, which are approximate equivalents. A Diplom can be obtained in the following subjects: architecture, constructional engineering, mining engineering, economics, bio-chemistry, chemistry, biology, education, forestry, horticulture, geography, geology, geophysics, metallurgy, agriculture, mining, surveying, mechanical engineering, mathematics, meteorology, mineralogy, oceanography, paleontology, physics, psychology, sociology, surveying, the teaching of economics, protestant theology, and philosophy. A student usually is permitted to sit for this examination only if he has passed the Diplomvorprüfung, which is generally taken about three years before the Diplom examinations. (See Diplomvorprüfung.)

DIPLOMPRÜFUNG: The examination for the *Diplom*. (See *Diplom* and *Diplomvorprüfung*.) A listing of these examinations follows:

Diplom - APOTHEKER, pharmacist
ARCHITEKT, architect
BAUINGENIEUR, civil engineer
BERGINGENIEUR, mining engineer
BETRIEBSWIRT, economist
BIOLOGE, biologist
BIOCHEMIKER, biochemist
BRAUMEISTER, brewer
CHEMIKER, chemist
DOLMETSCHER, interpreter
ELEKTROINGENIEUR, electrical engineer
FORSTWIRT, forester
GÄRTNER, horticulturist
GEOLOGE, geologist
GEOPHYSIKER, geophysicist
HANDELSLEHRER, commercial teacher
HÜTTENINGENIEUR, foundry engineer
INFORMATIKER, computer scientist
INGENIEUR, engineer
INGENIEUR DER FACHRICHTUNG METALLKUNDE, metallurgy
KAUFMANN, business administrator
LANDWIRT, agriculturist
LUFTFAHRTINGENIEUR, aeronautical engineer
MARKSCHEIDER, mine surveyor
MATHEMATIKER, mathematician
MASCHINENBAUINGENIEUR, mechanical engineer
METALLKUNDE, science of metals
METEOROLOGE, meteorologist
MINERALOGE, minerologist
ÖKONOM, economist
OZEANOGRAPH, oceanographer
PÄDAGOGE, educational specialist
PHYSIKER, physicist
PHYSIOLOGISCHE CHEMIE UND BIOCHEMIE, physiological chemistry and biochemistry
POLITOLOGE, political scientist
PSYCHOLOGE, psychologist
PUBLIZIST, journalist
SOZIOLOGE, sociologist
SOZIALWIRT, social scientist
STEINE UND ERDEN, ceramics and clay minerals specialist
TECHNISCHER-BETRIEBSWIRT, industrial manager
TECHNISCHER-VOLKSWIRT, economist
THEOLOG, theologian
UBERSETZER, translator
VERMESSUNGSINGENIEUR, surveyor
VERSICHERUNGSWISSENSCHAFTLER, insurance expert
VOLKS-u. BETRIEBSWIRTSCHAFTLER, economics expert
VOLKSWIRT, economist

Diplom - WIRTSCHAFTSINGENIEUR, industrial engineer
WIRTSCHAFTSLEHRE DES HAUSHALTS, home economist
WIRTSCHAFTSMATHEMATIKER, statistician

DIPLOMVORPRÜFUNG: An intermediate Diplom examination leading to the main Diplom examination. After three or four semesters the first portion of the Diplomvorprüfung may be taken. If the first part is passed, the second part may be taken after an additional semester or two. Some faculties divide the pre-Diplom examination into three parts. (See Diplom.)

DOKTORAND: Candidate for Doctoral degree. (FP)

DOKTORAT: A listing of doctorates offered at German universities:

Dr. agr., agriculture
Dr. ev. theol., protestant theology
Dr. forest, forestry
Dr. Ing., engineering
Dr. iur. can., canon law
Dr. iur. utr., civil and canon law
Dr. jur., law
Dr. kath. theol., catholic theology
Dr. med., medicine
Dr. med. dent., dentistry
Dr. med. vet., veterinary medicine
Dr. phil., philosophy, liberal arts
Dr. rer. nat., natural sciences
Dr. rer. oec., economics
Dr. rer. päd., pedagogy
Dr. rer. pol., political science
Dr. theol., theology

DOKTORVATER: The doctoral candidate's advisor. (FP)

DOLMETSCHERSCHULEN: Aside from more than 100 state-recognized public and private language schools, Germany presently maintains at least four university-affiliated institutions for the training of interpreters (Heidelberg, Mannheim, Munich, Saarbrücken). These schools offer the degree of Diplom-Dolmetscher. (FP)

DOZENT: The university teacher after Habilitation. In a narrower sense, the Privat-and Diätendozenten; more generally, all staff, members between Dozenten and Ordinarien (full professors). (FP)

DRITTELPARITÄT: Equal representation by the three interests of the university, professional staff, sub-professional staff, and students on governing committees. (RNPE)

DURCHLÄSSIGKEIT: Transferability of students and staff within higher education.

EXMATRIKULATION: Required "release" procedure upon leaving the university. Application for exmatriculation must be made after the beginning, and before the end, of the student's last semester of attendance. (FP)

EXTRAORDINARIUS: Professor. (See *Professor*.)

FACHARBEITERPRÜFUNG: Skilled Worker's Examination which comes at the end of *Berufsschule* (part-time vocational school).

FACHBEREICHE: Special fields of learning that cut across traditional disciplinary boundaries and focus research and teaching on significant social problem areas. (RNPE)

FACHHOCHSCHULE: A recently established institution, the *Fachhochschule* is a vocational college resulting from the consolidation of the *Ingenieurschulen*, *Hohere Fachschulen*, and *Akademien*, schools which traditionally have provided higher level technical training for people entering practical occupations. The newly founded *Fachhochschulen* will not abandon this function, but there will be an emphasis on theory and method which was previously lacking. Admission to the three year course will be via the new two year *Fachoberschule* which awards the qualifying certificate, the *Fachhochschulreife*. Courses will end with examinations and the awarding of degrees, with the term "*graduiert*" being used. It will be possible for successful students to continue their studies at a university. Teachers, in some instances *Dozenten*, known as *Fachhochschullehrer*, will have a different status and remuneration than those at the *Fachschulen*.

FACHHOCHSCHULREIFE: The examination which comes at the end of grade 12 at the *Fachoberschule* and serves as the basis of admission to the *Fachhochschulen*. (See *Fachoberschule*.)

FACHOBERSCHULE: This two year school--encompassing classes (grades) 11 and 12--was established by agreement between the states (*Länder*) in October, 1968. It offers general instruction, instruction in separate subjects, and practical training by subjects. Practical training is offered in class 11 (first year) and lasts the whole year, four days a week. In addition, there are at least eight hours a week of instruction in such subjects as German, English, Social Studies, Mathematics, Applied Mathematics, Technology, etc. In grade 12 there are thirty hours of instruction in general lessons (German, English, Mathematics, Natural Sciences, etc.) and lessons by subject (Technology, Mechanics, etc.) At least three-fifths of the time is spent in compulsory general education subjects: engineering, economics, (and business administration), home economics, social studies, design, and ocean navigation. The pre-condition for admission is completion of the *Realschule* or another certificate equivalent to the *Mittlere Reife*. Pupils possessing the *Fachschulreife*, or *Realschule*--leavers with a vocational certificate may be admitted directly to Class 12. Successful completion of the *Fachoberschule* leads to the *Fachhochschulreife* which provides the right of entrance to the new *Fachhochschule*.

FACHPRAXIS: See *Praktikum*.

FACHSCHAFT: 1) The student body registered within a given department (e.g., *Medizin*, *Germanistik*). Often represented in the student government. 2) Sometimes also the department as such, (formerly built around a chair). (FP)

FACHSCHULE: A specialized technical secondary school which accepts young people and adults who are beyond the age of compulsory schooling. Generally speaking, a *Fachschule* follows on to a *completed* vocational education and practical experience. A precondition for admission is the successful completion of education at a *Hauptschule* or *Realschule*-level certificate. *Fachschulen* train specialists and are therefore not counted as schools which prepare students for the university.

FACHSCHULREIFE: The *Fachschulreife* is the terminal examination of the *Berufsaufbauschule*, and comes after at least 1300 hours of schooling. (It is equal to the leaving certificate of the *Realschule*.) The *Fachschulreife* qualifies the holder for jobs of higher responsibility in working life. In addition, it is the basic qualification for admission to the *Ingenieurschulen*, the *Fachschulen*, and *Höhere Fachschulen*, the *Technische Oberschulen* and *Gymnasien*, which lead on to university maturity (*Hochschulreife*) in a specific subject. It is also possible for the holder of the *Fachschulreife* to gain admission to a *Kolleg*, where the *Hochschulreife* may be earned. (See *Berufsaufbauschule*.)

FAKULTÄT: 1) One of the major university schools (divinity, law, medicine, philosophical-humanities,etc.); the term refers to students and teachers as well. 2) In a narrower sense, the term refers to the "faculty" meaning teachers from *Dozent* through *Ordinarius*. (FP)

FAMULATUR: A period of practical hospital training for medical students who have passed the *Physikum* (medical externship). (FP)

FÖRDERSTUFE ("Promotion stage"): A special school stage between the primary level of schooling (*Grundschule*) and the secondary level, and involving grades 5 and 6. The "promotion stage" was developed in some states because it was felt that the decision to attend a *Gymnasium*, *Realschule*, or *Hauptschule* cannot always be made at the end of the 4th grade. The *Förderstufe* provides an opportunity for further observation and testing before final decisions are made regarding the further education of the child, namely, whether he should continue in the *Gymnasium*, the *Realschule*, or the *Hauptschule*.

FORTGESCHRITTENE: Advanced students.

FRAUENOBERSCHULE: A secondary school for girls, comprising either grades 11-13 or grades 7-13. Two foreign languages are taught. As a rule, stress is laid on domestic and social sciences. The graduation certificate gives access to the Pädagogische Hochschule (teacher training college) and, with a supplementary examination, to all forms of higher education.

FRÜHEINSCHULUNG: Institutions which test suitability for early school attendance of children who are not of compulsory school age.

GASTHÖRER: An auditing student, not granted the privileges which accompany full immatriculation. (FP)

GEMEINSCHAFTSKUNDE: Social Studies.

GESAMTHOCHSCHULE: A comprehensive institution of higher education which brings together different levels and types of post-secondary scientific and research-linked teaching under one administration and preferably on one site. Many of these are presently located in a variety of separate institutions of higher education, for example, in universities, technical-universities, and Hochschulen, and in pedagogical and engineering Hochschulen. The aims of integrated comprehensive organization are (1) to give parity of esteem to the different varieties of post-secondary study, (2) to facilitate a closer connection between theory and practice, and (3) to make possible greater transferability (Durchlässigkeit) of students and staff within higher education. The typical American university would be nearer the Gesamthochschule in organization than it would be to the traditional German university.

GESAMTSCHULE: A comprehensive school. These may be of two types: (1) a school which brings together under one name and one administration several separate units which are frequently on different sites; and, (2) a truly integrated school. Neither of these schools is as comprehensive as U.S. schools are.

GESAMTNOTE: Total average mark or grade.

GESELLENPRÜFUNG: Journeyman's examination which comes at the end of Berufsschule (part-time vocational school).

GRUNDSCHULE: Primary school. The first level of schooling common to all children. It includes grades 1 to 4 or, in the case of Berlin and Bremen, grades 1-6.

GRUNDSTUDIUM: Basic studies, introductory stage.

GYMNASIUM: A collective term for all general schools at the secondary level which includes work through the 13th grade. After the successful completion of the 13th grade, a final examination (the Abitur) may be taken. The passing of the Abitur grants admission to the university or equivalent institutions. The Gymnasium normally incorporates grades 5 to 13, or 7-13, depending on the length of the primary school (Grundschule) program. The basic forms of the Gymnasium are (1) Classical Language (Altsprachliches or Humanistisches Gymnasium requiring Latin, Greek, and one modern language; (2) Modern Language (Neusprachliches Gymnasium), requiring Latin and two modern languages; and, (3) Mathematics-Natural Science (Mathematisch-Naturwissenschaftliches Gymnasium), requiring two foreign languages. Other forms of the Gymnasium also exist. (See Wirtschaftsgymnasium and Frauenoberschule.)

HABILITATION: A post-doctoral degree requiring at least three years of study beyond the doctorate, and publication of a major scholarly work; normally the prerequisite for full university teaching accreditation. (See Privatdozent.) (FP)

HANDELSHOCHSCHULE: Advanced commercial institute.

HANDELSSCHULE: Commercial school.

HAUPTSCHULE: A secondary school. It includes five grades in states where primary school is of four years duration and three grades in states where primary school is of six years duration. The Hauptschule (Main School) prepares students for entry into work at the lower levels of skill and responsibility. One foreign language is obligatory, usually English.

HAUPTSTUDIUM: Main curriculum, which leads to the terminal examinations.

HAUSWIRTSCHAFTSCHULEN: These Fachschulen may be subdivided into (1) schools to train housekeepers and (2) schools to train senior housekeepers and home managers. Admission to the first type requires the final certificate of the Hauptschule and the relevant vocational training. Training for the "state qualified housekeeper" lasts one year at the full-time Fachschulen. The certificate awarded does not give the right of admission to senior housekeepers program nor to the Höhere Fachschule or Hochschule. Admission to the Fachschule offering the senior housekeeper or manageress program leading to state certification, requires the final certificate in a secondary-level school plus two years of professional work in a household or vocational education. This program lasts two years and permits successful students to train apprentices and trainees. One cannot proceed from this program to the Höhere Fachschule or the Hochschule.

HOCHSCHULEN: Literally this word means "high schools", but it should not be confused with the American use of the term. In Germany it is generally used to indicate various institutions of higher education, some with and some without university status. There are three main groups with university status: (1) the classical university with a number of faculties, but historically only medicine, law, theology and philosophy (liberal arts); (2) the technical university; and (3) the scientific academy (often consisting of only one large faculty for one specific subject). All of the foregoing are state institutions of equal status, offering academic degrees of equal value. Only universities have the "right of promotion", that is to say, the right to give the doctorate.

Institutions of higher education without university status are Ecclesiastical Colleges and church-conducted Colleges of Theology, State Colleges of Music, and Art, and Political Science, and Education and Sport. The principal characteristics of these schools are that they offer training for a more or less specific occupation, and do not have the right to confer the doctorate.

HÖHERE FACHSCHULE: This is/was a professional school immediately below university level. The duration of the full-time course is usually three years. To gain admission one usually must have completed vocational training or sufficient practical experience, plus at least ten years of education as provided by the *Realschule* or equivalent institutions. Under certain circumstances students of these institutions may be admitted to the corresponding faculties at the universities. These schools are being or have been transformed into *Fachhochschulen*.

HÖHERE LANDBAUSCHULE: An advanced agricultural school, a *Fachschule*, which trains farm managers. Admission is based on possession of a final secondary-level certificate (or entrance examination), or a good total performance on the *Landwirtschaftsschule* examination, plus completing agricultural vocational training with ensuing minimum of three years practical work. This one year training program (220 days of instruction) is not aimed at a period of studies in the university. However, if the successful candidate possesses a secondary-level final certificate, it is possible to enter the university. (See *Höhere Fachschule*.)

HUMANISTISCHES GYMNASIUM: See *Gymnasium*.

IMMATRIKULATION: Registration in the university rolls (*Matrikel*), a formal enrollment procedure at the beginning of the student's first semester at a university. (FP)

INGENIEURPRÜFUNG (*Staatliche*): The final state engineering examination which ordinarily comes at the close of the sixth semester of study.

INGENIEURSCHULE: Engineering school, which is not of university status.

INGENIEUR-VORPRÜFUNG: Intermediate engineering examination which ordinarily comes at the end of the third semester (in some schools, the fourth).

KAUFMÄNNISCHE FACHSCHULE: A school which trains "state qualified managers." Admission is based on possession of a final certificate of a secondary school, completed vocational education, and a minimum of two years of business practice or several years of practice in administration or industry. The course lasts four terms and is divided into basic and specialist sectors.

KINDERGARTEN: The traditional form of pre-primary education for children between the ages of three and six.

KIRCHLICHE HOCHSCHULE: Protestant theological school.

KOLLEG: A full-time school which takes adults (minimum age 19), who have completed vocational training or its equivalent, and prepares them for the *Abitur*. Those admitted normally have an education roughly equivalent to that of the *Realschule*. During their studies, which last for at least five half-year periods, *Kolleg* students are not permitted to work. *Kolleg* also refers to 1) lecture; 2) *Studienkolleg*, a one-year course for foreign students who are not yet eligible for full *Immatrikulation*; 3) student dormitories, occasionally; and, 4) a seminar-type of institution for the training of teachers.

KOLLEGGELD (*Hörergeld*): Tuition, a percentage of which is paid to the professor. (FP)

KOLLOQUIUM: A course in the form of discussions between the professor and a number of (usually advanced) students. (Frequently offered in the natural sciences.) (FP)

KONTAKTSTUDIEN: Arrangements for keeping graduates in touch with the latest developments in their fields. (RNPE)

KORPORATION (*Verbindung*): Most general term for traditional student fraternities in their different forms including duelling, religious, music-or sports-oriented groups. Membership is considered binding for life. Other interest groups such as *Studio*-*Bühne*, *Photo*-*Club*, political organizations or Protestant, Catholic student communities are not considered to be *Korporationen*. (FP)

KULTUSMINISTERKONFERENZ: Permanent Conference of Ministers of Culture. Organized in 1949, its tasks are those of co-ordinating educational matters of national importance. The KMK is a working group of the ministers of education with a permanent secretariat in Bonn. For resolutions to be taken by the KMK, unanimity is required; they then have to pass each *Land* (state) parliament before becoming effective. (RNPE)

KUNSTHOCHSCHULE: Colleges of fine arts, music, or music and dramatic arts. Those who enter with plans to teach must have an *Abitur* and be artistically gifted. The course is of 4 - 5 years duration. The diploma awarded, according to German educators, is equivalent to the U.S. master's degree. Those who plan to pursue a professional career in fine arts, music or music and dramatic arts do not need the _Abitur_, but must be artistically gifted. Their admission is based on talent, past work, a good liberal education, and, in most cases, an entrance examination. In some instances, the first term is treated as a trial period.

KURZSTUDIEN Short courses.

KURZSTUDIENGÄNGE: A short period of study.

LAND (pl. _Länder_): State in the Federal Republic of Germany, the _Bundesrepublik_. There are eleven such states.

LANDWIRTSCHAFT: Agriculture.

LANDWIRTSCHAFTSSCHULE: School of agriculture, a _Fachschule_. Admission is granted on the basis of the final certificate of a _Hauptschule_ and practical vocational pre-education, usually gained through a part-time agricultural school (_Landwirtschaftliche Berufsschule_). Duration of the course is two winter half-years, and leads to a final examination. Students who complete the course and do well on the examination, can enter the _Höhere Landbauschule_ after three additional years of vocational practice.

LATINUM: A proficiency examination in Latin which is still required for many fields of study at the university. There are two levels, _gross_ (large) and _klein_ (small), or beginning and advanced.

LEHRAMTSANWÄRTER: Teachers waiting for an appointment.

LEHRBEAUFTRAGTER: A person of whatever academic rank who is authorized to teach at an institution of higher education. Also may be used as a synonym for the lowest rank of instructor.

LEHRSTUHL (_Professor_): The "Chair" within a department to which a regular university professor is appointed. According to extent and curriculum of a department, it may have several _Lehrstuhle_.

LEKTOR: An instructor employed by the university to hold practical _Übungen_ (usually language courses). (FP)

LIZENTIAT DER RECHTE MAGISTER ARTIUM: An arts degree which can be equated with the _Diplom_ or _Staatsexamen_.

LIZENTIAT DER THEOLOGIE: Theology degree, which can be equated with _Diplom_ or _Staatsexamen_.

MAGISTER ARTIUM: The M.A. degree, which can be equated with the *Staatsexamen* or *Diplom*, is awarded in the Humanities/Arts areas after approximately eight semesters of study. It is a first degree. Students who sit for this degree examination normally do not plan to pursue a career for which the *Staatsexamen* is required, and often do not take the Ph.D. degree. The *Magister Artium*, which is roughly equivalent to the master's degree in the United States, was reestablished in Germany in 1957, after having died out in the 17th century.

MAGISTERPRÜFUNG DER PHILOSOPHISCHEN FACHGEBIETE: Philosophy degree which is equivalent to the *Staatsexamen* or *Diplom*.

MATHEMATISCH-NATURWISSENSCHAFTLICHES GYMNASIUM: See *Gymnasium*.

MAX-PLANCK-GESELLSCHAFT: An organization under civil law charter code, which comprises about 50 research institutions for advanced studies in biological science, chemistry, physics, technology, social science, and humanities. Founded in 1911 as the *Kaiser-Wilhelm-Gesellschaft*, it was renamed in 1948. (FP)

MEISTERFACHSCHULE: This school prepares students for the master-craftsman examination which is given by the examination committees of the chambers of industry and commerce. However, it is not required that individuals attend this school to sit for the examination. The course may last one to four terms in full or part-time instruction.

MITTELBAU: Sub-professional staff. Low-level teaching position, sometimes with tenure.

MITTLERE REIFE: The intermediate maturity examination which comes at the end of ten years of schooling in the *Grundschule* (4 years) and *Realschule* (6 years). It is roughly the equivalent to the British G.C.E. (Ordinary Level) and the Upper Fifth form of its secondary grammar school. Possession of the *Mittlere Reife* qualifies one to enter the upper grades of the *Gymnasium* or *Kolleg*, the *Ingenieurschule*, the *Höhere Fachschule*, or other technical schools requiring this standard of education after two years of vocational experience. (See *Realschule*).

NATURWISSENSCHAFTEN: Natural sciences.

NEUSPRACHLICHES GYMNASIUM: See *Gymnasium*.

NOTE: School mark, grade. The following numerical and descriptive grades are customarily given:

1. (*sehr gut* or *Teilnahme mit sehr gutem Erfolg*). This grade is given much less frequently than an "A" in the United States. Excellent.

2. (*gut* or *Teilnahme mit gutem Erfolg*). Good (better than U.S. "B").
3. (*befriedigend* or *Teilnahme mit Erfolg*). Satisfactory (better than U.S. "C").
4. (*ausreichend*). Acceptable (better than U.S. "D").
5. (comparable to "F", usually no *Schein* issued). (FP)

NUMERUS CLAUSUS: A numerical restriction of course participants, exercised in certain fields due to lack of laboratory, library or classroom space. (FP)

ORDINARIUS: Professor. The senior appointment in a discipline, similar to full professor in the American university. Within the traditional university structure, the *ordentlicher Professor* is one whose lectures are considered to be a basic prerequisite with a major field of study. (See *Professor*). (FP)

PÄDAGOGISCHE HOCHSCHULEN: These institutions train teachers primarily for the *Grundschulen* and *Hauptschulen*, but, sometimes, for the *Realschulen*. The *Abitur* is required for admission. The course of study lasts for at least three years and terminates with a first state examination. Some states add special courses to the training program for teachers and award a diploma which leads to new professional opportunities. In some states teachers are trained in special departments and institutes of the universities. The *Pädagogische Hochschulen* do research on the theory and methods of teaching. The institutions are self-governing and financed by the state, and, in most cases, have the same status as universities. (See *Prüfung für das Lehramt* for a listing of the various examinations qualifying to teach).

PHILOSOPHIKUM: Pre-examination in the humanities, liberal arts, pedagogy or political science, administered after 6-8 semesters of study. Required of theologians and teacher candidates for the *Gymnasien*. (FP)

PHILOSOPHISCHE-THEOLOGISCHE UND KIRCHLICHE HOCHSCHULE: Institute of Philosophy and Theology.

PHYSIKUM: Final examination of pre-clinical education at the end of the fifth or sixth semester; it is preceded by the *Vorphysikum*, an examination in the sciences at the end of two or three semesters. (FP)

PRAKTIKUM: Laboratory course, particularly in the natural sciences and technical fields. Also, a period of practical training outside of the university, which is strictly required in the fields of pharmacy, agriculture, forestry, horticulture, timber economy, food chemistry, viticulture and medicine. In addition, all technical universities require evidence of pre-university practical training for most subjects. The formal pre-university and subject training (*Fachpraxis*) periods may only be spent in industrial undertakings and in recognized central training establishments. During these periods a trainee book must be kept. The employer must be asked for a reference when training is completed.

PRIVATDOZENT: An academician who has received the post-doctoral accreditation to teach (*Habilitation*). Not a civil servant, the *Privatdozent* traditionally receives no fixed salary, but only lecture fees. He may take a university position as *Assistent* or *Wissenschaftlicher Rat* until called to a permanent chair as professor.

PROFESSOR: The following distinctions among faculty members with the rank of Professor are made: *Ordinarien* are usually the professors in a major field and heads of a department, institute or clinic; *Extraordinarien* are professors within the department. Both are *Lehrstuhlinhaber* ("Chair holders") and *planmässige Professoren* (according to the master-plan of the department.) *Ausserplanmässige Professoren* are university teachers with the *Habilitation* who have been promoted to the title after at least 5 years of university service without holding a chair.

Honorarprofessoren pursue an occupation or career outside of the university, but have been granted an honorary title and teaching accreditation on the grounds of outstanding performances in a scientific or scholarly field. To be accepted as a professorial member of a university faculty, a candidate must normally present a public lecture and be voted the *venia legendi* (right to teach) by his colleagues. (FP)

PROMOTION: The granting or receiving of the doctoral degree. (FP)

PROSEMINAR: In the humanities (*Geisteswissenschaften*), the most basic seminar course, usually geared to offer initial training in departmental methodology. (FP)

PRÜFUNG: Examination.

PRÜFUNG FÜR DAS LEHRAMT: State examinations for teaching in primary and secondary schools, requiring at least three years of preparation.

PRÜFUNG FÜR DAS LEHRAMT AN DER UNTER-UND MITTELSTUFE DER GYMNASIEN (KLEINE FACULTAS), teaching qualifying examinations for lower and middle classes, all fields.

PRÜFUNG FÜR DAS LEHRAMT AN GYMNASIEN, teaching qualifying examinations for several special schools.

PRÜFUNG FÜR DAS LEHRAMT AN HÖHEREN SCHULEN: teaching qualifying examinations for secondary level, all fields.

PRÜFUNG FÜR DAS LEHRAMT AN HÖHEREN SCHULEN IN DEN TECHNISCH-WISSENSCHAFTLICHEN FÄCHERN, teaching qualifying examinations in secondary level, technical sciences.

PRÜFUNG FÜR DAS LEHRAMT AN HÖHEREN SCHULEN, NATURWISSENSCHAFTLICHE, teaching qualifying examinations secondary level, natural sciences.

PRÜFUNG FÜR DAS LEHRAMT AN HÖHEREN SCHULEN UND AN BERUFSBILDENDEN SCHULEN, teaching qualifying examinations secondary level and vocational schools

QUÄSTUR: Accounts office at a German university.

REALSCHULE: A secondary school ending with the completion of the 10th grade. It is of six years duration in states where the primary schooling is four years in length and four years where primary schooling is of six years duration. The *Realschule*, once termed the *Mittelschule*, is distinguished from the *Hauptschule* by the additional year of study, the greater variety of courses in languages (two foreign languages, one compulsory) and natural sciences, and a deeper penetration of the subjects studied. Schooling at the *Realschule* terminates with the *Mittlere Reife*. Graduates usually enter white-collar jobs. (See *Mittlere Reife*.)

REALSCHULEABSCHLUSS: Leaving certificate of the *Realschule*.

REFERENDAR: A candidate for the upper-level service careers, who has passed the first state examination (*Staatsexamen* or *Referendarprüfung*), and has been admitted to a trainee position (*Referendarzeit*). This period is completed with the second examination (*Assessorexamen*).

REIFEPRÜFUNG: See *Abitur*.

REIFEZEUGNIS: See *Abitur*.

REKTOR: The traditional head and principal representative of the university or institution of higher learning, normally elected for one year from the ranks of the *Ordinarien*. His deputy is the *Prorektor*, who usually has been his predecessor. In some universitite today, a *Präsident* is chosen for a 3 to 5 year period (FP)

RIGOROSUM: Oral examination administered after acceptance of a doctoral dissertation. (FP)

RÜCKMELDUNG: Enrollment procedure at the beginning of the semester (before course registration) for returning students i.e., those who have matriculated for one or more semesters. (FP)

SCHEIN: A certificate testifying that a student has successfully participated in a course. Scheine are not automatically issued, but must be requested by the student, who should ask his instructor at the beginning of the semester how he may earn one. In a lecture course, the only certificate which may be issued is the Fleissschein, for which the student takes a written or oral examination at the end of the semester covering the contents of the course. A Labor- or Ubungsschein (in language and natural science courses) is usually based on weekly assignments, as well as quizzes and examinations. To earn a Seminarschein, the student submits an oral and/or written term report (das Referat) on a topic assigned by the professor at the beginning of the semester or at the end of the previous semester. In some cases, a Seminarschein may be granted to a student who takes accurate minutes (das Protokoll führen) of the seminar meetings throughout the semester. (See Note). (FP)

SCHULKINDERGARTEN: Pre-primary classes for children of compulsory school age who are physically and mentally retarded.

SEKUNDÄRABSCHLUSS: Secondary leaving certificate, which may, in time, replace the Abitur. Recent proposals suggest a Sekundärabschluss I and II, the I coming after lower secondary school and the II after upper secondary school.

SEKUNDÄRSTUFEN: Grades of the secondary school.

SEMESTER: The traditional academic calendar in Germany. The Summer Semester begins in April, the Winter Semester in October. Vacation (Semesterferien) is during February and March and August and September. (FP)

SEMINAR: 1) University departments with their own working libraries (larger departments are often called Institute). The Seminar rooms are open only to students registered in the department. 2) Abb. for Seminarübung, roughly equivalent to the English word "seminar." In the humanities, a distinction is drawn between Proseminare (for beginners), Mittel-or Hauptseminare (for advanced students), and Oberseminare (small circles of doctoral candidates and other advanced students. (FP)

SENAT: The supreme council within the university's system of self-administration, responsible for matters of the university as a whole. Most universities have two Senate, one of which (usually called Grosser Senat or Konzil) is responsible for electing the Rektor and initiating amendments in the university's constitution. The Engerer or Kleiner Senat is responsible for the general administration of university affairs and often reviews disciplinary questions. It consists of the Rektor, Dekan elected faculty members and student representation. (FP)

SONDERSCHULEN: Schools for children and young people with physical, psychological and mental handicaps.

SOZIALWISSENSCHAFTEN: Social sciences, sociology.

SPORTHOCHSCHULE: A college to train physical education teachers and pursue research in all branches of sport.

STAATSEXAMEN: A terminal state board examination which is required for civil service careers (law, teaching (German teachers at all levels normally are civil service), etc.) or state licensed professions (medicine, dentistry). This examination also may be required for post-graduate study. Foreign students rarely take this examination, except in the field of medicine, where it is required. The Staatsexamen is roughly the equivalent of the Diplom or the Magister Artium, but, contrary to the latter, it is controlled by the various states, not the universities. (See Staatsprüfung for a listing of these state examinations.)

STAATSPRÜFUNG: State examinations.

Juristiche Staatsprüfung	- law
Lebensmittelchemische	- food chemistry
Lebensmitteltechnische	- food technology
Medizinische	- medicine
Naturwissenchaftliche	- natural sciences
Pharmazeutische	- pharmacy
Philosophische	- philosophy
Theologische	- theology
Tierärztliche	- veterinary medicine
Wirtschaftliche und Wissenschaftliche	- economics and social science

STÄNDIGE KONFERENZ DER KULTUSMINISTER DER LÄNDER IN DER BRD (KMK): Coordinating council of the 11 Land (state) ministers of culture and education; also administers the Pädagogischer Austauschdienst (PAD), which arranges for teacher and teaching assistant exchanges. (FP)

STRUKTURPLAN: Structural plan for education.

STUDIENBUCH: A booklet containing the record of courses for which the student has registered, the instructor's signatures (if this practice is followed; see Testat), and any disciplinary or administrative remarks on the part of the university. The Studienbuch is kept throughout the student's academic career (even if he transfers to other universities), and, together with the Scheine he receives, comprises his "transcript." (FP)

STUDIENKOLLEG: A one year course for foreign students who are not eligible for full matriculation in the university. At the end of the year the student is required to take an examination which will determine whether or not he will be admitted to regular university studies.

STUDIENREFERENDAR: Teacher candidate, after passing first state examination.

STUDIUM GENERALE: University-sponsored lectures, discussions and similar programs, designed to offset the tendency to narrow specialization and demonstrate the continuity between fields. The Studium Generale program is usually presented through the Vorlesungen für Hörer aller Fakultäten, or through a series of lectures (Ringvorlesungen). (FP)

TECHNIKERSCHULE: A Fachschule which gives an education leading to "state qualified technician." The full-time course at Tagesfachschulen (day schools) lasts three half-years and the part-time course at evening schools six half-years. The precondition for admission is successful conclusion of the Hauptschule or the Berufsschule, plus vocational education, plus additional vocational experience. Instruction in these schools is closely related to practice; the teachers are experts with long years of experience in the firms and factory workshops. Graduates vocationally fall between skilled workers and engineering graduates.

TESTAT: The instructor's signature in the Studienbuch, procured at the beginning and/or end of a semester as indication of participation in a course. This practice has been widely eliminated, in view of the fact that Scheine are usually issued. (FP)

TEXTIL-und SCHNEIDERSCHULEN: These Fachschulen lead to state qualifications as technicians in their respective fields, that is to say, textiles and clothing. The course lasts one-and-one half years at a full-time school and appropriately longer at part-time schools. The certificate gained upon successful completion of the course does not qualify the student for Höhere Fachschulen in textiles or clothing, which accept only students who have a secondary-level final certificate and vocational pre-education. Admission demands the final certificate of the Hauptschule and completed vocational training.

ÜBUNG: Exercise; practice; drill. Übung, exercise or laboratory courses are usually called Praktikum. "The Übung or exercise may either offer active participation by discussion, term paper, acquiring or deepening knowledge in the subject matter. The same term may also apply to practical translation exercises for language students, to solving equations or similar problems for math and science students, to case studies for law studies, etc. (UL) (See Praktikum).

UNIVERSITÄT: University.

VOLKSWIRTSCHAFT: Economics.

VENIA LEGENDI: The right to teach in a specialized field, granted by a faculty vote upon an academician's Habilitation, or offer of a chair (without Habilitation). (See Professor)

VOLKSSCHULE: Term used when the *Grundschule* (primary school) and the *Hauptschule* (secondary school) are linked together.

VORABITUR: See *Abitur*.

VORLESUNG: (also *Kolleg*) Academic lecture course, the basic form of instruction at German universities. (FP) "The German *Vorlesung* is basically a one-man show, the presentation of what *Herr Professor* considers his contribution to truth on the subject and of how he has arrived at his conclusion..." (UL)

WEITERBILDUNG: Further education which incorporates the concepts of adult education, continuing vocational education, and retraining.

WESTDEUTSCHE REKTORENKONFERENZ (*WRK*); An institution representing the common interest of the 41 universities and institutions with university status. The WRK is concerned with legal and constitutional questions affecting the academic sphere, international academic contacts, and organizational decisions regarding university instruction and research. (FP)

WIRTSCHAFTSGYMNASIUM: Comprises the last three years of the *Gynmasium*, grades 11-13. Emphasis is on economics and business administration. Two foreign languages are offered. Graduates qualify for higher studies in economics and social science.

WIRTSCHAFTSHOCHSCHULE: Advanced business institute.

WISSENSCHAFTLICHER RAT: Title given to an academician who has completed his *Habilitation* and is employed at a university as a civil servant in a teaching and researching capacity; he is eligible for a permanent academic chair. (FP)

WISSENSCHAFTSRAT: Advisory commission established in 1957 by agreement between federal and state governments. Its primary object is to prepare long-range over-all plans for the promotion of academic research and training and to recommend priorities for programs and expenditures of the federal and state budgets for scientific purposes. (FP)

ZWEITER BILDUNGSWEG: In addition to the *Grundschule* "normal" educational sequence (*Volksschule*--*Gymnasium*--*Hochschule*), several alternate possibilities are now offered under the title of "second channel of education." This plan encompasses evening school (*Abendgymnasium*), other preparatory institutions, or various examinations administered during a vocational training period to enable gifted young people to receive further education, and in some cases to enter universities, engineering or teachers colleges. (FP)

NOTES

Introduction

The Conference was concerned only with the education systems of and educational exchange between the United States and the Federal Republic of Germany, commonly referred to as West Germany. Thus, all references in this report to Germany refer only to the Federal Republic, the F.R.G.

Section II

[1] Eckhard Stegmann, "The German System of Education Today," Meet Germany (14th Edition; Atlantik-Brücke, Hamburg, 1971), p.75.

[2] Organization for Economic Cooperation and Development, Education Committee, Reviews of National Policies for Education, Germany, Examiners' Report and Questions (Paris: November 1971), pp.28-29.

[3] Organization for Economic Cooperation and Development, Education Committee, Reviews of National Policies for Education, Germany, (Paris: 1971), p.30.

[4] Generally German educators consider the Mittlere Reife to be somewhat equivalent to a high school diploma in the United States or to the "O" level examinations in the British system.

[5] Those courses lead to the Fachschulreife which include a second language, e.g. the two year commercial/clerical course requiring English.

[6] See Appendix B (O), p.94 for percentage distribution of pupils among the various types of Berufsfachschulen, and Appendix B (p.4) for lesson plans for the Berufsfachschulen.

[7] Ulrich Littmann, An Introduction to the Confusion of German Education (Background paper for the DAAD/NAFSA Conference; Bonn-Bad Godesburg: June, 1972), p.10.

[8] Organization for Economic Cooperation, Education Committee, Examiners' Report and Questions, op. cit., p.79.

[9] The International Association of Universities, International Handbook of Universities (5th Edition; Paris: 1971), pp.440 ff.

[10] Organization for Economic Cooperation, Education Committee, op. cit., p.127.

[11] Littmann, op. cit., p.31.

[12] In the humanities the Doktorat may be the first degree.

[13] Littmann, op. cit., p.16.

[14] Organization for Economic Cooperation, Education Committee, op. cit., p.147.

Section III

[1] This should not be interpreted to mean that the Americans were not interested in quality or that the Germans were not interested in duration; it was a matter of emphasis.

[2] International Association of Universities, Methods of establishing equivalences between degrees and diplomas (UNESCO: Paris: 1970), p.13.

[3] Dr. Rotter's taped comments were translated by Dr. Gerhard H. Mundinger, Associate Dean, College of Arts and Sciences and Professor of German, University of Denver, Denver, Colorado, U.S.A.

[4] The new teachers will be known as Fachhochschullehrer, and, in some cases, as Dozenten. /Rapporteur's notation.7

Section IV

[1] Ulrich Littmann, An Introduction to the Confusion of German Education (Background paper for the DAAD/NAFSA Conference; Bonn-Bad Godesburg: June, 1972), p.11.

[2] Organization for Economic Cooperation and Development, Education Committee, Reviews of National Policies for Education, Germany, Examiners' Report and Questions (Paris: 1971), pp. 8-9.

[3] Inter Nationes, Kulturbrief,(Vol. III, No. 4; Bonn-Bad Godesberg: April, 1973), p.17.

[4] Organization for Economic Cooperation and Development, Education Committee, Examiners' Report and Questions, op. cit., pp.40-41.

[5] A number of institutions at this level are presently in transition to institutions in the university sector, for example, the Höhere Fachschulen and Ingenieurakademien.

[6] Organization for Economic Cooperation and Development, Education Committee, Reviews of National Policies for Education, Germany (Paris: 1971), p.190.

[7] Organization for Economic Cooperation and Development, Education Committee, Examiners' Report and Questions (Paris: November, 1971), op. cit. pp.12-13.

[8] Press and Information Office of the Government of the Federal Republic of Germany, Education and Schools (Information 15. Bonn: 1973), p.1.

[9] Gerhard Hess, Universities in Germany 1930-1970 (Inter Nationes: Bad Godesberg, 1968), p.49.

[10] Press and Information Office of the Government of the Federal Republic of Germany, Universities and Colleges (Information 14. Bonn: 1973), pp.1-2.

[11] Organization for Economic Cooperation and Development, Education Committee, Examiners' Report and Questions, op. cit., pp. 8-9.

[12] Universitites and Colleges, op cit., p.6.

[13] Gerhard Hess, op. cit., pp.16-17.

[14] Organization for Economic Cooperation and Development, Education Committee, Examiners' Report and Questions, op. cit., p.9.

[15] ibid, p.11.

Section V

[1] The writer relied to a considerable extend upon three documents during the development of the Glossary; they were as follows: Ulrich Littmann, An Introduction to the Confusion of German Education (Background paper for DAAD/NAFSA Conference; Bonn-Bad Godesburg: June, 1972); Organization for Economic Cooperation and Development, Education Committee, Reviews of National Policies of Education, Germany, (Paris: 1971); and The Fulbright Primer, Commission for Educational Exchange between the United States of America and the Federal Republic of Germany (Bad Godesburg: undated); where appropriate, these sources will be credited as follows: (UL), Ulrich Littmann; (RNPE), Reviews of National Policies for Education Germany; (FP), The Fulbright Primer.

Appendix B

[1] Source for materials appearing in Appendix B: Organization for Economic Cooperation and Development, Education Committee, Reviews of National Policies for Education, Germany (Paris, 1971).

Appendix C

[1] Ulrich Littmann, *An Introduction to the Confusion of German Education* (Background paper for the DAAD/NAFSA Conference; Bonn-Bad Godesburg: June, 1972), pp. 10-15.

Appendix D

[1] The list includes institutions having full university status, but excludes various other institutions which (though of high academic standing) are not recognized in the Federal Republic of Germany as universities in the strict sense.

[2] Dates given are the dates of founding, which may or may not be the date the university acquired its present name and/or present status.

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APPENDIX A

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9) Herr Dr. W. Holle, Akademischer Direktor, Universität Bonn

10)* Herr Hopfer, Ministerialrat, Kultusministerium des Landes Nordrhein-Westfalen, Düsseldorf

11)* Herr Dr. Kalischer, Referent, Westdeutsche Rektorenkonferenz, Bad Godesberg

12)* Herr Dr. Kerckhoff, Direktor des Deutschen Instituts für Entwicklungspolitik, Berlin

13) Frau L. Krausser, Geschäftsführer, Akademisches Auslandsamt, Göttingen

14) Frau U. Leonhardt, Studienassessorin u. Leiterin des Akademischen Auslandsamtes, Erlangen

15) Herr Dr. Littmann, Verwaltungsdirektor, Fulbright-Kommission, Bad Godesberg

16) Herr G. Nelles, Geschäftsführer, Akademisches Auslandsamt, Bochum

17)* Herr Dr. H. Pfeiffer, Generalsekretär der Alexander-von-Humboldt-Stiftung, Bad Godesberg

18) Herr H. Rams, Leiter des Akademischen Auslandsamtes, Freiburg

19) Herr Dr. Rotter, Referent, Westdeutsche Rektorenkonferenz, Bad Godesberg

20) Herr Dr. Sattler, Referent, Fulbright-Kommission, Bad Godesberg

21)* Frau Professor Dr. W. Sayler, Pädagogische Hochschule, Bonn

22) Herr W. Schestag, Geschäftsführer der Akademischen Auslandssstelle, München

23) Herr G. Schneider, Leiter des Akademischen Auslandsamtes, Heidelberg

24) Frau Steiger, Referentin, Westdeutsche Rektorenkonferenz, Bad Godesberg

25)* Frau M. Wendt, M.A., Ständige Konferenz der Kultusminister der Länder in der BRD, Bonn

26) Herr Dr. Wiercimok, Abteilungsleiter, Deutsche Forschungsgemeinschaft, Bad Godesberg

27) Herr Dr. Ebel, Deutscher Akadamischer Austauschdienst, Bad Godesberg

28) Herr Eschbach, Deutscher Akademischer Austauschdienst, Bad Godesberg

29)* Herr Dr. Hellmann, Deutscher Akademischer Austauschdienst, Bad Godesberg

30) Herr Mohrmann, Deutscher Akademischer Austauschdienst, Bad Godesberg

31) Herr Müller, Deutscher Akademischer Austauschdienst, Bad Godesberg

32) Herr J. von Dobbler, Reisebegleiter

*nichtständige Teilnehmer (Special participants)

APPENDIX B[1]

(a) Lesson Plan for the Berlin Grundschule (Classes 1-6)

Subject	No. Weekly Lessons per grade					
	1	2	3	4	5	6
Pre-Subject Instruction.......	17	21	25	27		
Maximum No. of Lessons for Beginners' Courses (Arithmetic, PE, Drawing, Music).....................	(3)	(8)	(8)	(10)		
Lessons in Transition to Instruction by Subjects						
German.....................					5	5
Arithmetic.................					5	5
(Latin).....						(4)
Foreign Language					5	5
(Latin).....					(6)	(6)
History/Social Affairs 1					6	6
Nature Study and technical 2 (Latin Classes)					(5)	
Geography 3						
Primary Studies 4						
Physical Education..........					3	3
Drawing and Handicrafts.....					3	3
Music......................					2	2
	17	21	25	27	29	29

(b) Lesson Plan for the Baden-Württemberg Grundschule (Classes 1-4)

Subject	First Year B	First Year G	Second Year B	Second Year G	Third Year B	Third Year G	Fourth Year B	Fourth Year G(1)
Religion	2 or 3		2 or 3		3		3	
German Lang.	General Lessons		General Lessons		German Less. Local Hist.& Geography		German Lesson Local History & Geography	
Local History and Geography	16 Lessons		14 Lessons		14 Lessons		18 Lessons	
Singing & Music	With 8 Less. German Lang. 5 Less. Local History and Geog. incl. Singing and Drawing and 3 Less. Arithm.		With 9 Less. German Lang. 5 Less. Local Hist.& Geog. incl. Sing & Drawing		With 9 Less. German Lang. 5 Less. Local Hist.& Geog. incl. Sing & Drawing		With 10 Less. German Lang. 6 Less. Local Hist.& Geog. incl. Sing & Drawing	
Drawing			Local History and Geograph Lessons Can be Reduced by One for the Girls					
Arithmetic			4		5		5	
Physical Ed.	Daily Gymnastics and Playtime Within Scope of General Less., At Least One Lesson per Week				2		2	
Handicrafts	-	1	-	2	-	3	-	3
Total	18-19	19-20	20-21	21-22	24	26	26	28

(1) B = Boys
G = Girls

(c) Lesson Plan for the Rhineland-Palatinate Hauptschule (Classes 5-9)

	School Year														
	5			6			7			8			9		
	Class unit	Course A	Course B	Class unit	Course A	Course B	Class unit	Course A	Course B	Class unit	Course A	Course B	Class unit	Course A	Course B
Religion	3			3			3			3			3		
German	4	2	2	4	2	2	3	2	2	3	2	2	3	2	2
History	1			2			2			2					
Geography	2			2			2			2			1		
Civics							1			2			3		
English(1)		4	4		4	4		3	3		3	3		3	3
Mathematics		5	5		5	5		4	4		4	4		4	4
Physics/Chemistry	1			2			2			2			2		
Biology	1			2			2			2			2		
Music(2)	2			2			2			2			2		
Art(2)	1			1			2			2			2		
Handicrafts (boys)	2			2			4			4			4		
Physical Education	3			3			3			3			3		
The Family (girls)													4		
Textile Design	2			2			2			2					
Domestic Science(3)							2			2					
Group Activities							2			2			3		
Total	31			34			35			36			36		

(1) Pupils, who show a special interest in English, can also participate voluntary study group (two hours weekly) in addition to the obligatory lessons. Such a study group should primarily be set up for A Course pupils in their 5th and 6th grade. Pupils, who do not take part in English lessons because of their inadequate performance, are instead taught German, Mathematics, and handicrafts in special groups.

(2) Music and Art are optional subjects from the 7th grade onwards. Every pupil must take one of these subjects.

(3) Instruction in domestic science is to be given in the 8th grade with 4 hours teaching every fortnight.

In consideration of the "Arbeitslehre" it is recommended for th 8th and 9th grade that instruction in handicrafts and domestic science should be combined with one German lesson and one lesson in another subject involving work studies in the timetable for a single weekday.

(Source: Timetable for the Hauptschule in Rhineland-Palatinate dated 1st December, 1963).

(d) Lesson Plan for the North Rhine-Westphalia Realschule (Classes 5-10)

	5	6	7	8	9	10	Total
Religion	2	2	2	2	2	2	12
German	5	6	4	4	4		27
History	1	2	2	2			
Geography	2	2	2	2	4	8	23
Civics	-	-	-	-			
English	6	5	4	4	4	4	27
Mathematics	5	5	5	4	4	4	27
Physics	-	-	2	2	2	2	8
Chemistry	-	-	-	2	2	2	6
Biology	2	1	2	2	2	2	11
Physical Education	2	2	2	2	2	2	12
Art	2	2					
Handicrafts			3	3			
Textile Design	2	2			4	2	27
Music	2	2	2	1			
Choice of Subject(1)	-	-	4	4	4	3	
Domestic Science for girls(2)	-	-	-	-	-		18
Group activities for boys(2)	-	-	-	-	-	3	
	31	31	34	34	34	34	198

(1) see Note 2 - 3. see Note 3.

1. For the 5th to 10th School year (grades 1 - 6) there is a two hour sports afternoon every fortnight. Girls who, in the 9th School year (grade 5) choose the 3 hour group activity in Domestic Science, do not have to take part in this sports afternoon.

2. The subjects from which a choice can be made are:
   (a) for the 7th and 8th school year (grades 3 and 4), French or Social Studies and Economics;
   (b) for the 9th and 10th school year (grades 5 and 6), French, or Applied Mathematics, Physics, Chemistry, and Biology, which can be offered as single subjects or as combinations of subjects.

3. For girls, an additional 3 hour group activity in Domestic Science is to be established in the 9th school year (grade 5) as an optional subject. In the 10th school year (grade 3) as an optional subject. In the 10th school year (grade 6), girls have to take part in a 3 hour group activity in Domestic Science. For boys, lessons are to be offered in Social Studies and Economics, or in the artistic and technical sphere. These are optional in the 9th school year (grade 3) and obligatory in the 10th school year (grade 6).

4. Girls in the 5th and 6th school years (grades 1 and 2) can also receive two optional lessons weekly in Textile Design. In classes of girls at Realschulen for boys and girls, one of these lessons will be instead of Handicrafts and one will be additional.

5. At Realschulen for boys, one additional hour of Physical Education is permitted in place of one Handicrafts lesson.

6. Musical group activities for choir, orchestra, and circles of players are to be introduced as an optional extra on account of their importance for the dissemination of culture in the Realschule and for the organisation of school ceremonies.

Should alterations in the timetable be necessary because of the circumstances prevailing at a school, these must be decided on in consultation with the school inspectorate. The circular dated 29th January, 1963 directing a reduction in the number of lessons taught on Saturday is cancelled. Instead, up to four 45 minute lessons, plus the usual breaks, will be given per class. Teaching will end on Saturday at 12 at the latest.

(Source: Official Gazette North Rhine-Westphalia 1967)

(e) Lesson Plan for the Berlin Joint Intermediate Level (Classes 7-10)

Subject	Number of weekly lessons per grade			
	Grade 7	Grade 8	Grade 9	Grade 10
German	4	4	3	3
History/Civics	2	2	3	3
Geography	2	2	2	2
1st language	4	3	3	3
2nd language	5	5	3	3
Choice of subject	-	-	4	3
Greek	-	-	(6)	(6)
Mathematics	4	4	4	4
Physics	-	2	2	2
Chemistry	-	-	2	2
Biology	2	2	-	3
Music	2	4	4	4
Art/Handicrafts	3	4	4	4
Physical Education	3	3	3	2
Total	31	31	33	33

(f) Lesson Plan for the Gymnasium Upper Level (Classes 11-13)
(Stress on Classical Languages)

Subject	Number of weekly lessons per grade		
	grade 11	grade 12	grade 13
German	3	4	4
History/Civics	3	-	-
Geography	2	-	-
World Affairs	-	4	4
Latin	4	4	4
Greek	6	6	6
Mathematics	3	4	4
Physics	2	3	3
Chemistry	2	-	-
Biology	2	(3)	(3)
Music	4	2	2
Art	4	(2)	(2)
Physical Education	2	2	2
Total	33	29	29
Optional lessons	(4)	(8)	(8)
Total	37	37	37

(g) Lesson Plan for Gymnasium Upper Level (Classes 11-13)
(Stress on Modern Languages)

Subject	Number of weekly lessons per grade		
	Grade 11	Grade 12	Grade 13
German	3	4	4
History/Civics	3	-	-
Geography	2	-	-
World Affairs	-	5	5
1st language	4	4) }9	4) }9
2nd or 3rd language	5	5)	5)
Mathematics	3	4	4
Physics	3	3	3
Chemistry	2	-	-
Biology	2	(3)	(3)
Music	}4	2	2
Art		(2)	(2)
Physical Education	2	2	2
Total	33	29	29
Optional lessons	(4)	(8)	(8)
Total	37	37	37

(h) Lesson Plan for Gymnasium Upper Level (Classes 11-13)
(Stress on Mathematics and Natural Sciences)

Subject	Number of weekly lessons per grade		
	Grade 11	Grade 12	Grade 13
German	3	4	4
History/Civics	3	-	-
Geography	2	-	-
World Affairs	-	5	5
1st language	2) }6	4	4
2nd language	4)	-	-
Mathematics	5	5	5
Physics	3	4	4
Chemistry	3) }5	3	3
Biology	2)	(3)	(3)
Music	}4	2	2
Art		(2)	(2)
Physical Education	2	2	2
Total	33	29	29
Optional Lessons	(4)	(8)	(8)
Total	37	37	37

(i) Lesson Plan for Gymnasium Upper Level (Classes 11-13)
(Stress on the Arts)

Subject	Number of weekly lessons per grade		
	grade 11	grade 12	grade 13
German	3	4	4
History/Civics	3	-	-
Geography	2	-	-
World Affairs	-	5	5
1st language	2	4	4
2nd language	4	-	-
Mathematics	2	4	4
Physics	2	3	3
Chemistry	2	-	-
Biology	2	(3)	( )
Music	7	7	7
Art			
Physical Education	2	2	2
Total	33	29	29
Optional lessons	(4)	(3)	(3)
Total	37	37	37

(j) Lesson Plan for *Gymnasium* Upper Level (Classes 11-13)
(Stress on Economics)

Subject	Number of weekly lessons per grade		
	Grade 11	Grade 12	Grade 13
German	3	4	4
History/Civics	3	-	-
Geography	2	-	-
World Affairs	-	5	5
Economics	5	6	4
1st language	2 6	4	4
2nd language	4	-	-
Mathematics	3	4	4
Physics	2	3	3
Chemistry	2	(3)	(3)
Biology		-	-
Music	3	2	2
Art		(2)	(2)
Physical Education	2	2	2
Total	32	29	29
Optional lessons	(5)	(8)	(8)
Total	37	37	37

(k) Lesson Plan for Gymnasium Upper Level (Classes 11-13)
(Stress on the Social Sciences)

Subject	Number of weekly lessons per grade		
	Grade 11	Grade 12	Grade 13
German	3	4	4
History	2	-	-
Geography	2	-	-
World Affairs	-		
Social Sciences	5	5	5
1st language	2) }6	4	4
2nd language	4)	-	-
Mathematics	3	4	4
Physics	2	3	3
Chemistry	2	-	-
Biology	2	(3)	(3)
Music	4	2	2
Art		(2)	(2)
Physical Education	2	2	2
Total	33	33	33
Optional lessons	(4)	(3)	(3)
Total	37	37	37

(Source: Official Gazette Berlin III/1968, p.14)

(1) Lesson Plan for Gymnasien in Bavaria (Classes 5-13)
(Humanistic Gymnasium)

Grades	5	6	7	8	9	10	11	12	13	Total
Obligatory subjects:										
Religion	2	2	2	2	2	2	2	2	2	18
German	5	5	4	4	4	4	4	4	4	38
Latin	6	6	5	6	4	5	5	5	5	47
English	-	-	4	4	3	3	3	-	-	17
Greek	-	-	-	-	6	6	5	6	6	29
Mathematics	4	4	4	4	3	3	3	4	-	29
Natural Sciences:										
Physics	-	-	-	-	2	2	2			6
Chemistry	-	-	-	-	-	-	2	4	4	2 + 8
Biology	2	2	2	2	2	2	-			12
Civics:										
History	-	-	2	2	2	2	2	2	3	15
Geography	2	2	2	2	2	-	2	1	1	14
Social Studies	-	-	-	-	-	1	-	1	1	3
Art	2	2	2	2	1	1	1	2	2	11 +4
Music	2	2	2	1	1	1	1			10
Physical Education	2	2	2	2	2	2	2	2	2	18
Writing	1	1	-	1	-	-	-	-	-	3
	28	28	31	32	34	34	34	33	30	284
Group Activities:										
English	-	-	-	-	-	-	-	2	2	4
Mathematics	-	-	-	-	-	-	-	-	2	2
Needlework (only girls)	2	2	2	2	-	-	-	-	-	8
Participatory music Choir and orchestra (1 or 2 hours weekly)										
Optional subjects:										
Shorthand	-	-	-	2	2	-	-	-	-	4
French	-	-	-	-	-	3	3	2	-	8
Italian	-	-	-	-	-	2	2	-	-	4
Spanish	-	-	-	-	-	2	2	-	-	4
Russian	-	-	-	-	-	3	3	2	-	8
Hebrew	-	-	-	-	-	-	-	2	2	4
Philosophy	-	-	-	-	-	-	-	1	1	2
Drawing (from the 8th grade)										
Instrumental music (violin, viola, cello, double-bass)	one to two hours weekly in each case									
Needlework (only for girls from the 9th grade)										

(Source: School regulations and their implementation for Gymnasien in Bavaria, 1968)

(m) Lesson Plan for Lower Level Gymnasium in Hamburg (Classes 5-10)
(Stress is on Modern Languages and on Mathematics and the Natural Sciences)

Grade	5	6	7	8	9	10	5 - 10
Religion	2	2	2	1	1	2	10
German	5	5	4	4	4	4	26
History	-	-	2	2	2	2	8
Geography	2	2	2	2	3	2	11.5/21.5
Civics	-	-	-	-	-	2	2
Music	2	2	2	2	2	2	12/24
Art	2	2	2	2	2	2	12
Physical Education	3	3	3	3	3	3	18
1st language	5	5	4	4	3	3	21
2nd language	-	-	5	4	4	3	16
3rd language	-	-	-	-	-	-	-
Class	5	6	7	8	9	10	5 - 10
Mathematics	5	5	4	4	4	3	25
Physics	-	-	-	2	2	2	6
Chemistry	-	-	-	-	2	2	4
Biology	2	2	2	2	epoch.	2	11.5
Handicrafts or Needlework	2	2	-	-	-	-	4
Total	30	30	32	32	33	34	191

(n) Lesson Plan for the Lower Intermediate and Upper Levels of Baden-Wurtemberg Sonderschule for Educationally Weak Children and Young People

Subject	1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year		8th Year		9th Year	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
	Lower level groups						Intermediate groups						Upper groups					
1. Religious instruction	2		2		2		2		2		2		2		2		2	
2. Practical education																		
Looking after oneself																		
Learning by playing	6		5		4		3		1									
Local History and Geography lessons in the everyday	2		3		3		4		4		4		4		4		4	
Preparation for work																		
Education																		
Handicrafts	2		3		5		5	2	7		8		10		10		10	
Textiles																		
Domestic Science								3		7		8		10		10		10
3. Education in the arts																		
Singing, Music	5		5		5		5		5		5		4		4		4	
Physical Education	5		5		5		5		5	5	5	5	5	5	5	5	5	5
4. Instruction in language, reading, writing,	4		4		5		5		6		6		6		6		6	
arithmetic	1		1		1		2		2		2		2		2		2	
Hours per week together	27		28		30		26		20		19		18		18		18	
divided							5	5	12	12	13	13	15	15	15	15	15	15
Total per pupil	27		28		30		31	31	32	32	32	32	33	33	33	33	33	33

Since teaching in the Sonderschule is, to a large extent, not concerned with individual subjects, the number of lessons set out in the timetable are to be viewed as guidelines for taking individual subjects into account within the overall plan.

(Source: Kultus and Unterricht, 3 Z 4356 A, Special Issue 3, 1968)

(o) Percentage Distribution of Pupils Among the Various Types of Berufsfachschulen(1)

branch of industry or occupation 1. conditions of admission 2. extend counted towards training in undertakings 3. leaving certificate	Berufsfachschulen				
	clerical and commercial %	industrial and technical %	housecraft, nursing, social welfare %	other occupations (agriculture, horticulture crafts, artisan trades, technical assistants) %	%
1. Hauptschule 2. about 50 per cent counts 3. no Fachschulreife or equivalent	1	2	7	-	10
1. Hauptschule 2. all counts 3. no Fachschulreife or equivalent	7	0.5	10	0.5	18
1. Hauptschule 2. about 50 per cent counts 3. no Fachschulreife or equivalent	36	5	5	-	46
1. Hauptschule 2. all counts 3. Fachschulreife or equivalent	5	-	5	-	10
1. Fachschulreife or equivalent 2. all counts	4	-	-	-	4
1. Fachschulreife or equivalent 2. all counts	5	-	5	2	12
Total	57	8	32	5	100

(1) Source: Unpublished results of enquiries with Ministries of Education (as of 1969)

(p) Lesson Plan of Theoretical Instruction(1) for Metal-work Trades(2)

Subject	Hours per week
Religion	1
Social studies	1
German	1
Economics	1
Specialised subjects:	
knowledge of materials	
working methods	2
Arithmetic	2
Applied geometry	1
Technical drawing	2
Physical education	1
Total	12
Practical work in specialised subjects	(2)

(1) A further 28 hours per week are devoted to practical instruction in workshops.

(2) Source:

"Schul- und Hochschulverzeichnis", catalogue of secondary schools and universities in the Länder, published by Klaus Szameitat and Hans-K. Kullmer, Verlag Anton Hain, Meisenheim am Glan, 1968, p. 540.

(q) Lesson Plan for a Berufsfachschule (housecraft)
following on from the Hauptschule
The whole course is counted as part of training with an undertaking.
No Fachschulreife or equivalent(1)

Subject	Hours per week
I. German	2
Civics	2
Religion(2)	
Teaching and infant care	2
Arithmetic and book-keeping	2
Health care	2
Nursing and baby care	2
II. Cooking, foodstuffs, diatetics	9
Cleaning, washing, etc., gardening, flower cultivation	4
Handwork	7
Singing and gymnastics	2
Total	32
III. Group work:	
1. English or a subject chosen from section I	2
2. House tasks chosen from section II	2
Total	36

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(1) Source: "Schul-undHochschulverzeichnis", catalogue of secondary schools and universities in the Länder, published by Klaus Szameitat and Hans-K. Kullmer, Verlag Anton Hain, Meisenheim am Glan, 1968.

(2) Fortnightly one hour from section I.

(r) Lesson Plan of a commercial/clerical Berufsfachschule (two-year Handelsschule) following on from the Hauptschule. Part of the course is deducted from the period of training in undertakings: intermediate certificates are awarded.

Subject	Hours per week	
	first year	second year
General subjects		
German	4	3
English	4	5
Social studies, history	2	2
Geography	1	1
Religion	2	2
Mathematics and science subjects		
Mathematics	5	4
Physics	1	1
Chemistry	1	1
Basic occupational theory, practical training		
Economic and business correspondence, book-keeping and clerical work	6	7
Typing and office techniques	6	5
Physical education	2	2
Total	34	33
Voluntary group work		
(to improve performance; subjects of interests)	4	4

(1) Source: "Schul- und Hochschulverzeichnis", catalogue of secondary schools and universities in the Länder, published by Klaus Szameitat and Hans K. Kullmer, 1968, Meisenheim am Glan, p. 486.

(s) Fachoberschule Education

The following timetables and guidelines for guided trainee education provide a closer insight into a Fachoberschule in subjects such as engineering, economics, social work/social education(1):

(1) Instruction is based on the following timetable:

	Lessons per week	
	Class 11	Class 12
A. General instruction for all subjects		
German	1	4
English	1	4
Social studies	1	2
Mathematics	1	4
Natural sciences	-	4
Physical education	-	2
	4	20
B. Instruction by subject		
Engineering/Technology		
Applied mathematics	2	-
Technology	2	4
Technical design and Geometry	2	3
Mechanics	-	3
	6	10
Economics		
Economic theory	2	4
Industrial accountancy	2	3
Economic calculation	2	3
	6	10
Social Work-Education		
Education/psychology	2	3
Health/biology	-	2
Social studies II	2	2
Expression and design	-	3
Legal and constitutional studies	2	-
	6	10

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(1) Source: Rulings on the establishment and running of Fachoberschulen. Decree of the Minister of Culture of Lower Saxony of 25th March, 1970 - III/3 - 100/70.

APPENDIX C

THE UNIVERSITY[1]

Dr. Ulrich Littmann

Higher education in Germany is what goes on in universities, technical universities and, with a benign concession, at teacher training institutions and academies of music or of fine arts. Very recently, and not with general approval, some sub-university institutions have come quite near to being accepted in the club.

The Universities plus Technical Universities of which we have now 44-odd are the sanctuaries of true scholars/irresponsible revolutionaries/true revolutionaries/irresponsible scholars/mouse-grey career-minded specialists/etc. ...

The "community of teachers and students" is a far cry, and so is the nobility of education, which did not match the notion of the "Gelehrtenrepublik" (republic of scholars), anyhow.

At this very time the author finds it next to impossible to describe the features and functions, the operations and internal structures with any degree of reliability - and what may be true in A. today, but not in B, can be the reverse tomorrow. In order to fully enjoy and see the confusion, without the intention to unravel the threads of past, current or future developments, we have to see some of the trends over the last 25 years. Post-war reconstruction was a matter of physical rebuilding and of replacing staff from a generation that had had little opportunity for free and thorough education and training; the background against which this reconstruction took place was the democratic model of the Weimar Republic in the 1920's. At that time nobody expected the growth rate of technology, of technological change, political implications and the forgetfulness of history. In the mid-50's Germany had the most modern obsolete universities, functioning on the principles of autonomous self-administration of academic matters under the wise guidance and financial supervision of State ministers of education; self-perpetuating faculties catered to increasing numbers of students in an increasing number of disciplines. While there was a sense for the necessity of reform, only few people could agree on the direction, goals and methods of reform.

Then the university saw a generation of students who were no longer committed to any tradition, to whom material security and freedom of speech and action were self-evident and who could afford to look towards the future (and not all of them by asking Marx and his disciples). The combined efforts of professors and politicians, of students and a wider public have set into motion a series of reforms/innovations/hidden revolutionary acts/violent acts which will adjust the university to the challenges of tomorrow/destroy the university/create the educational system of a free socialist-communist society/lead to red fascism.....

Federal legislation in the area of higher education lingers in ministries and parliament, the States ("Lander") have, or have not, passed laws pertaining to higher education, however, with a minimum of coordination, or none at all. Today even within one State ("Land") the constitutions or statutes of its universities can differ in basic aspects.

With these cautious remarks the author wishes to refer the readers to more abstract treatises if they want to penetrate this field.

The Structure

In a more practical way, the following paragraphs can perhaps give some impression of how universities are/can be/have been structured.

The university as a community consists of professors, other academic teaching staff (-"assistants"), students and (not everywhere) non-academic staff (secretaries, technicians, cleaning women). It is represented by elected officers: either a president (serving between six years and lifetime, not necessarily a university man) or by a Rektor (serving between one and three years, always a professor). It is governed either by the president/Rektor or by the "Konzil" or the "Senat" consisting of (the) Deans, other faculty, usually full professors and occasionally student representatives. Students' and assistants' representation may account for around 50 per cent of the votes. Within the operational field of president/Rektor and Senat most central offices of the administration are to be found: budget, foreign relations, public relations.

The division into "Fakultäten" (corresponding somewhat to the term "school of ..." in America) still exists at many universities. The "Theologische Fakultät" (Divinity School) or "Philosophische Fakultät" (appr. Arts and Science) along with 10 or 11 other consolidated bulks of disciplines have been replaced in all newly founded and some of the old institutions by independent smaller units called "Fachbereich", which may coincide with a traditional Fakultät (e.g. law) or which may comprise just some "Fachschaften" (-"department). The "Fachbereich Literatur" can then include Germanistics, Anglistics, Romanistics, Aesthetics as its component department. To make things more complete: The nomenclature is horribly mixed up.

Whether "Fakultät" or "Fachbereich"; It is headed by a Dekan (Dean) elected from among the full professors for a year (non-professors have also been elected), and a parliamentary body is at his side. It is on this level that decisions are made on filling of vacancies (-recommendation to the ministry of education), on doctorates, examination requirements.

The "Fachschaft" or department formerly built around a chair, then around an "institute" or "seminar" (e.g. Historisches Institut) exists through all its members, professors, assistants, students who work in the discipline. Usually there is still a "Direktor" of an institute, the legal head and representative, but decisions are frequently made by an institute council with student/assistant participation; in many instances the chairman of an institute council is a student or assistant. On the level of the institute (but also for the entire university) plenary meetings ("Vollversammlung") can constitute the supreme authority. For appointment of assistants, institute research projects, acquisition of books the department may/does/should take the responsibility.

The role of the autocratic "Ordinarius" is over/still maintained/crushed. The chain of command, the exploitation of assistants has been reduced or abolished.

The Faculty: Teachers and Researchers

The famous hierarchy of and among the teaching faculty is dead/still alive/reduced/reactivated/taking new forms. People still like to teach at the university. In order to describe a system which indeed has assumed more new facets than most other areas of education, we need different frames of reference: formal tenure plus responsibilities; academic rank and qualifications; academic functions. And we still will not be able to discern the finer points.

The corps of professors still exists as the top of the cream. The professor constitutes and personifies the unity of teaching and research as an official career. As a rule he takes a doctorate and subsequently the "Habilitation", a post-doctoral degree which carries the title of "Dozent" and the right to lecture. Within a short time he has civil service status and tenure, and as soon as he is called to a professorship and accepts, he enjoys the title: otherwise he obtains the title (apl. "ausserplanmässiger" (titular) "professor" after about three years.

If he is not a full professor, he may be promoted to "Wissenschaftlicner Rat und Professor" to ensure his civil service privileges along with scholarly status.

At most institutions the teachers of different rank, but with the "Habilitation" completed form the group of "professors". However, vacant professorships - as most other positions at the university - are made known to a wide public, and applications are invited before suitable candidates are screened; this is definitely one of the enormous changes.

Next to the professors we find a rather recent kind of teachers who form the aggregate of the "Mittelbau" (middle layer of teachers). It is not only the homestead of the assistants, but it includes both "transitional" members who work towards the doctorate or "Habilitation" and plan to pick the laurels of their discipline, and "permanent" members.

The transitionals appear under the names of "Assistenten", "wissenschaftliche Mitarbeiter" and, in an expanding manner, as "Assistenzprofessoren"; the last group is appointed for approximately six years as university teachers to either qualify for a permanent professorial position or to look for a job some place else. However, in social and academic contacts the limiting "Assistenz" is usually dropped (this makes letters of reference a hazard in some people's opinion--but don't forget that they are university teachers as long as they serve!)

The "permanent" members are the result of some innovative actions that universities and State politicians have taken. The overcrowded courses, inadequate teacher: student ratio and the limited access of students to teaching staff have directed the attention to the lack of university teachers. The "Akademischer Rat" and the "Studienrat im Hochschuldienst" indicate that civil service rank of "Rat" (promotion possible: "Oberrat" etc.) and the career in the advanced eschalons of civil service--but in academia he is second to the man for teaching and research. "Studienrat", incidentally, is the official career of a "Gymnasium" teacher; The main assignment of the "middle layer" is teaching courses where subject matter is taught for beginners. The "doctorate" is desirable but not required in every instance.

The "middle layer" in diverse forms is firmly entrenched in the university. Once the spearhead of reform and in close alliance with the students it is now pursuing a more moderate course. Its issues are legion, its legal future quite uncertain as to whether they all become "professors" or maintain their own identity.

Somewhere in the area of the "Mittelbau" we would find the different types of instructors who work under contract or part-time. The "Lektor" would typically be a native language instructor and concerned with teaching the language skill; a "Lehrbeauftragter" would teach a special course on account of particular professional expertise.

The Students

In comparison to the middle layer, students form the basis of the university. Around ten per cent of an age group achieve the status of academic citizenship. Most of them will have come straight from "Gymnasium", a small fraction via the "second route" (zweiter Bildungsweg), less than ten per cent come from working-class families. By background and schooling they are prepared for the intellectual adventure; but not all may have counted on the subject(s) with which they started out and with which they graduate. About one out of three entering students will not take a final exam--which does not necessarily signal failure: an educated mother is ok; a journalist, a stage director, a salesman may profit from the few semesters at a university. Slightly less than ten per cent are foreign students; in some technical universities a fifth of the student body is from abroad.

Background and motivation, tradition and many other factors have prevented the coherence and experience of an American campus at any German university. If you are looking for an academic teacher in your discipline, the football team and many other attractions of the New World lose their fascination for a German.

In fact, the German university does not care for the education/training of personalities or citizens (that's the job of secondary and primary school!), and liberal arts--studium generale--are a tiny bit of requirements at some universities in some disciplines. The physical needs of a student are secondary to the university; no campus facilities, some assistance in housing, a "Mensa" as a kind of cafeteria, few dormitories, few clubs. After all, the student is history, fraternities are less conspicuous than in the U.S., sororities non-existent.

Social life is something of individual choice and preference, nothing to be promoted or governed by the university.

However, the student is still rather carefree in allotting time to formal and informal studies, political, social and other activities. His privileges as an academic citizen have to be questioned at times, but hardly challenged.

APPENDIX D

UNIVERSITIES AND TECHNICAL UNIVERSITIES[1]
FEDERAL REPUBLIC OF GERMANY

Rheinisch-Westfälische Technische Hochschule
Rhenish-Westphalian Technical University
Templergraben 55, 5100 Aachen
1870[2]

Universität Augsburg
University of Augsburg
Memminger Strasse 6-14
8900 Augsburg
1970

Freie Universität Berlin
Free University of Berlin
Ihnestrasse 24, 1000 Berlin 23
1948

Technische Universität Berlin
Technical University of Berlin
Strasse des 17. Juni 135
1000 Berlin 12
1879

Universität Bielefeld
University of Bielefeld
Kurt-Schumacherstrasse 6
4800 Bielefeld
1967

Ruhr-Universität Bochum
University of the Ruhr
Buscheystrasse 132
4630 Bochum
1961

Rheinische Friedrich-Wilhelms-Universität
Rhenish Friedrich-Wilhelm University of Bonn
Liebfrauenweg 3, 5300 Bonn 7
1818

Technische Universität Carolo-Wilhelmina Braunschweig
Carolo-Wilhelmina Technical University of Brunswick
Pockelstrasse 14, Postfach 70 50
3300 Braunschweig
1745

Technische Universität Clausthal
Technical University of Clausthal
Adolf-Römer-Strasse 2A
Postfach 230
3392 Clausthal-Zellerfeld
1775

Technische Hochschule Darmstadt
Technical University of Darmstadt
Hochschulstrasse 1
6100 Darmstadt
18[illegible]

Universität Dortmund
University of Dortmund
August-Schmidtstrasse,
4600 Dortmund-Eichlinghofen
1965

Universität Düsseldorf
University of Düsseldorf
Strumpellsstrasse 4
4000 Düsseldorf
1907

Friedrich-Alexander-Universität Erlangen-Nürnberg
Friedrich Alexander University of Erlangen-Nuremberg
Schlossplatz 4
8520 Erlangen
1743

Johann Wolfgang Goethe-Universität
Johann Wolfgang Goethe University of Frankfurt
Mertonstrasse 17-25,
6000 Frankfurt-am-Main
1901

Albert-Ludwigs-Universität
Albert Ludwig University of Freiburg
Belfortstrasse 11,
7800 Freiburg-im-Breisgau
1457

Justus-Liebig-Universität
Justus Liebig University of Giessen
Ludwigstrasse 23
6300 Giessen
1607

Georg-August-Universität
Georg August University of Göttingen
Wilhelmsplatz 1
3400 Göttingen
1736

Universität Hamburg
University of Hamburg
Edmund-Simers-Allee 1
2000 Hamburg 13
1919

Medizinische Hochschule
Hannover Medical School
Roderbruchstrasse 101
3000 Hannover-Kleefeld
1963

Technische Universität Hannover
Technical University of Hannover
Welfengarten 1
3000 Hannover
1831

Tierärztliche Hochschule
School of Veterinary Medicine
Bischofsholer Damm 15
3000 Hannover
1778

Ruprecht-Karl-Universität
Rupert Charles University of Heidelberg
Grabengasse 1
6900 Heidelberg 2
1386

Universität Hohenheim (Landwirtschaftliche Hochschule)
University of Hohenheim
Schlossgebäude, Postfach 73
7000 Stuttgart 70 (Hohenheim)
1818

Universitat Fridericiana Karlsruhe (Technische Hochschule)
University or Karlsruhe
Kaiserstrasse 12, Postfach 63 80
7500 Karlsruhe 1
1825

Gesamthochschule Kassel
University of Kassel
Kassel
1970

Christian-Albrechts-Universität
Christian Albrecht University of Kiel
Neue Universität
Olshausenstrasse 40-60
2300 Kiel
1665

Universität zu Köln
University of Cologne
Albertus-Magnus Platz
5000 Köln 41 (Lindenthal)
1388

Universität Konstanz
University of Constance
Werner-Sombartstrasse 30
Postfach 733, 7750 Konstanz
1964

Johannes Gutenberg-Universität
Johannes Gutenberg University of Mainz
Saarstrasse 21, Postfach 39 80
6500 Mainz
1477

Universität Mannheim (Wirtschaftshochschule)
University of Mannheim
Schloss, 6800 Mannheim 1
1907

Philipps-Universität Marburg
Philipps University of Marburg
Biegenstrasse 10
3550 Marburg/Lahn
1527

Ludwig-Maximilians-Universität
Ludwig Maximilian University of Munich
Geschwister-Scholl-Platz 1
8000 München 22
1472

Technische Universität
Technical University of Munich
Arcisstrasse 21
8000 München 2
1827

Westfälische Wilhelms-Universität
University of Münster
Schlossplatz 2, 4400 Münster
1780

Universität Regensburg
University of Regensburg
Universitätsstrasse 31
Postfach 397, 8400 Regensburg
1962

Universität des Saarlandes
University of the Saar
6600 Saarbrücken
1947

Universität Stuttgart (Technische Hochschule)
University of Stuttgart
Huberstrasse 16, Postfach 560
7000 Stuttgart 1
1829

Universität Trier-Kaiserslautern
University of Trier-Kaiserslautern
Schneidershof, Postfach 38 25
5500 Trier
1970

Eberhard-Karls-Universität
Eberhard Karl University of Tübingen
Wilhelmstrasse 7
7400 Tubingen
1477

Universität Ulm (Medizinisch-Naturwissenschaftliche Hochschule)
University of Ulm
Grüner Hof 5c, Postfach 11 30,
7900 Ulm
1967

Bayerische Julius-Maximilians-Universität
University of Würzburg
Sanderring 2, 8700 Würzburg
1582

APPENDIX E

COLLEGES OF EDUCATION

Pädagogische Hochschule (1958)[1]
College of Education, Augsburg
Schillerstrasse 100
8900 Augsburg

Pädagogische Hochschule (1958)
College of Education, Bamberg
Feldkirchenstrasse 21
8600 Bamberg

Pädagogische Hochschule (1895, 1958)
College of Education, Bayreuth
Geschwister-Scholl-Platz 3
8580 Bayreuth

Pädagogische Hochschule (1946, 1967)
College of Education, Berlin
Malteserstrasse 74-100
1000 Berlin 46

Pädagogische Hochschule (1947, 1970)
College of Education, Bremen
Lange Reihe 81
2800 Bremen

Pädagogische Hochschule (1958)
College of Education, Eichstätt
8833 Eichstätt

Pädagogische Hochschule (1958)
College of Education, Esslingen an Neckar
Beblingerstrasse 1-10
7300 Esslingen

Pädagogische Hochschule (1946)
College of Education, Flensburg
Mürwiker Strasse 77
2390 Flensburg

Pädagogische Hochschule (1962)
College of Education, Freiburg im Breisgau
Kunzenweg 29
7800 Freiburg-Littenweiler

Pädagogische Hochschule (1962)
College of Education, Heidelberg
Keplerstrasse 87
6900 Heidelberg

Pädagogische Hochschule (1768, 1962)
College of Education, Karlsruhe
Bismarckstrasse 10
7500 Karlsruhe

Pädagogische Hochschule (1946)
College of Education, Kiel
Olshausenstrasse 75
2300 Kiel

Pädagogische Hochschule (1966)
College of Education, Lörrach
Hangstrasse 46-50
7850 Lörrach

Pädagogische Hochschule (1962)
College of Education, Ludwigsburg
Reute Allee 46
7140 Ludwigsburg

Pädagogische Hochschule (1958)
College of Education, Munich
Am Stadtpark 20
8000 München 60

Pädagogische Hochschule Niedersachsen[2] (1969)
College of Education, Niedersachsen
Lüerstrasse 3
3000 Hannover

Pädagogische Hochschule (1958)
College of Education, Nuremberg
Regensburger Strasse 160
8500 Nürnberg

Pädagogische Hochschule (1962)
College of Education, Regensburg
Salzburger Gasse 1
8400 Regensburg

Pädagogische Hochschule (1958)
College of Education, Reutlingen
Am Hohbuch, Postfach 680
7410 Reutlingen

Erziehungswissenschaftliche Hochschule
Rheinland-Pfalz (1949, 1969)
College of Educational Science
Raimundistrasse 2
6500 Mainz

Pädagogische Hochschule Rheinland (1964)
Rheinland College of Education
Richard-Wagner-Strasse 39
5000 Köln

Pädagogische Hochschule Ruhr (1965)
College of Education of the Ruhr
Rheinlanddamm/AEG-Hochhaus
4600 Dortmund

Pädagogische Hochschule des Saarlandes (1969)
College of Education of the Saar
6600 Saarbrücken

Pädagogische Hochschule (1825, 1962)
College of Education, Schwäbisch Gmünd
Lessingstrasse 7
7070 Schwäbisch-Gmünd

Pädagogische Hochschule (1949, 1962)
College of Education, Weingarten
Kirchplatz 2
7987 Weingarten

Pädagogische Hochschule Westfalen-Lippe (1965)
College of Education, Westfalen-Lippe
Hammer Strasse 39, Postfach 63 43
4400 Münster

Pädagogische Hochschule (1958)
College of Education, Würzburg
Wittelsbacher Platz 1
8700 Würzburg

APPENDIX F

SCHOOLS OF ART AND MUSIC

ART

Staatliche Hochschule für Bildende Künste, Berlin

Staatliche Hochschule für Bildende Künste, Braunschweig

Staatliche Kunstakademie Düsseldorf--Hochschule für Bildende Künste, Düsseldorf

Städelschule--Staatliche Hochschule für Bildende Künste, Frankfurt

Staatliche Hochschule für Bildende Künste, Hamburg

Staatliche Akademie der Bildenden Künste, Karlsruhe

Staatliche Hochschule für Bildende Künste (Werkakademie), Kassel

Staatliches Hochschulinstitut für Kunst-und Werkerziehung, Mainz

Akademie der Bildenden Künste, Munich

Akademie der Bildenden Künste, Nürnberg

Staatliche Akademie der Bildenden Künste, Stuttgart

Hochschule für Gestaltung, Ulm

MUSIC

Staatliche Hochschule für Musik und Darstellende Kunst, Berlin

Staatliche Hochschule für Musik-Nordwestdeutsche Musikakademie, Detmold

Folkwang Hochschule-Musik, Theater, Tanz, Essen-Werden

Staatliche Hochschule für Musik, Frankfurt

Staatliche Hochschule für Musik, Freiburg

Staatliche Hochschule für Musik und Darstellende Kunst, Hamburg

Staatliche Hochschule für Musik und Theater, Hannover

Staatlich anerkannte Hochschule für Musik und Theater, Heidelberg

Badische Hochschule für Musik, Karlsruhe

Staatliche Hochschule für Musik, Cologne

Schleswig-Holsteinische Musikakademie und Norddeutsche Orgelschule, Lübeck

Staatliche Hochschule für Musik in München, Munich

Staatliche Hochschule für Musik, Saarbrücken

Staatliche Hochschule für Musik und Darstellende Kunst, Stuttgart